

97 011-4
V. 2

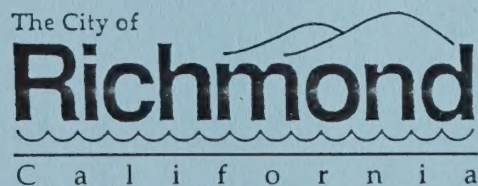
Volume Two of the Richmond General Plan

Technical Appendix

INSTITUTE OF GOVERNMENTAL
STUDIES LIBRARY

NOV 15 1994

UNIVERSITY OF CALIFORNIA



August 1994

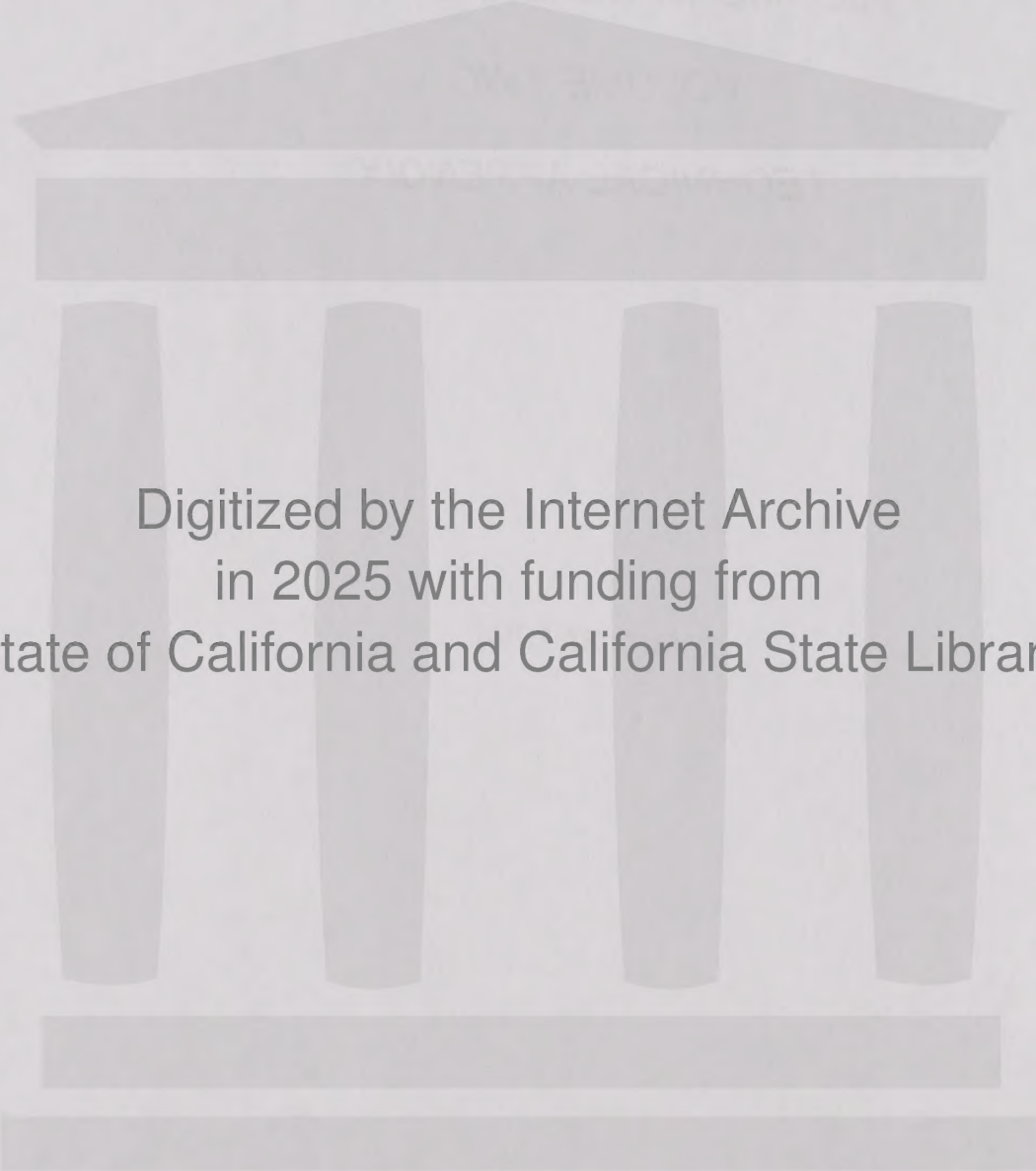
RICHMOND GENERAL PLAN

VOLUME TWO

TECHNICAL APPENDIX

August 1994

*City of Richmond
Planning Department
2600 Barrett Avenue
Richmond, CA 94804
(510) 620-6706
FAX (510) 620-6858*



Digitized by the Internet Archive
in 2025 with funding from
State of California and California State Library

<https://archive.org/details/C101696544>

**TECHNICAL APPENDIX -
VOLUME TWO OF THE RICHMOND GENERAL PLAN**

TABLE OF CONTENTS

	<u>PAGE</u>
A. INTRODUCTION TO THE TECHNICAL APPENDIX	A-1
B. SURVEY OF NATURAL FACTORS	B-1
TOPOGRAPHY	B-1
GEOLOGY AND SOILS	B-2
Geology	B-2
Soils	B-2
Mineral Resources	B-5
SEISMIC HAZARDS	B-7
Faults	B-8
Ground Shaking	B-9
Tsunami	B-10
Liquefaction Potential	B-10
Landslide Potential	B-11
Seiches	E-13
SEA LEVEL RISE	B-13
HYDROLOGY AND WATER QUALITY	B-13
Hydrology	B-13
Water Quality	B-14
VEGETATION AND WILDLIFE	B-16
Vegetation	B-16
Wildlife	B-18
Rare and Endangered Plants and Animals	B-20
CLIMATE AND AIR QUALITY	B-21
Climate	B-21
Air Quality	B-22
REFERENCES	B-26
ADDENDUMS	
1. GLOSSARY	
2. EL SOBRANTE GEOTECHNICAL STUDY	
Map Preparation	
Landslides	

TABLE OF CONTENTS -- CONTINUED

Faults Consultants' Recommendations - General

C.	SURVEY OF THE BUILT ENVIRONMENT	C-1
	Existing Visual Forms	C-1
	Inventory of Visual Features	C-1
	ARCHAEOLOGICAL AND HISTORIC RESOURCES	C-4
	ELECTROMAGNETIC FIELDS	C-5
	HAZARDOUS WASTE MANAGEMENT	C-6
	Tanner Bill, AB 2948	C-6
	Hazardous Waste Generation	C-6
	Hazardous Waste Managed On-Site	C-9
	Types of Hazardous Waste Management Facilities	C-13
	Regulators	C-14
	Local Programs	C-14
	Environmental Control	C-14
	Existing/New Off-Site Facilities in Richmond	C-15
	Waste Minimization Program	C-15
	Other Sources of Waste	C-16
	NOISE ENVIRONMENT	C-17
	Characteristics of Sound	C-17
	Noise Metrics & Assessment Criteria	C-19
	Land Use Noise Compatibility Guidelines	C-21
	Methodology for Determining the Noise Environment in Richmond	C-22
	Summary of Noise Exposure	C-38
	REFERENCES	C-43
	ADDENDUMS	
	1. GLOSSARY	
D.	SURVEY OF POPULATION AND HOUSING	D-1
	DEFINITIONS	D-1
	Definition of Affordable Housing	D-1
	Definition of Income Categories	D-1

TABLE OF CONTENTS -- CONTINUED

POPULATION CHARACTERISTICS	D-4
Total Population	D-4
Population Trends Since 1980	D-4
Population Growth Projections	D-5
Household Income	D-9
Ethnic Composition	D-12
Age	D-15
HOUSING CHARACTERISTICS AND NEEDS ASSESSMENT	D-17
General Housing Characteristics	D-17
Housing Conditions and Substandard Units	D-19
Residents of Substandard Housing	D-20
Rehabilitation	D-20
Apartment Conversion, Impact on Availability	D-20
Housing Needs of Special Needs Groups in Richmond	D-21
Lower Income and Minority Low Income Households	D-21
Housing Overpayment	D-25
Large Families	D-26
The Elderly	D-26
Female Heads of Household	D-27
Unemployed Persons	D-28
Handicapped	D-28
Homeless Persons	D-29
Existing Homeless Aid Programs	D-34
Analysis of Shelter and Transitional Housing Needs	D-35
Housing Needs Related to Adequate Housing	D-36
Housing Needs Related to Homeownership	D-37
Housing Needs Related to Balancing Richmond's Housing Stock	D-39
Housing Needs Related to Safe and Attractive Neighborhoods	D-40
Richmond's Projected Share of Regional Housing Needs	D-43
CONSTRAINTS	D-45
Governmental Constraints	D-45
Land Use Controls and Zoning	D-45
Codes and Standards	D-47
Fees and Other Exactions	D-48
Local Processing and Permit Procedures	D-49

TABLE OF CONTENTS -- CONTINUED

Nongovernmental Constraints	D-50
Cost of Residential Land	D-50
Cost of Construction	D-50
INVENTORY OF LAND SUITABLE FOR RESIDENTIAL DEVELOPMENT	D-53
EVALUATION OF RICHMOND HOUSING PRODUCTION VS. OBJECTIVES 1985-1990	D-64
New Construction	D-64
Evaluation	D-66
Rehabilitation	D-72
Other (Owner and Renter Programs Combined)	D-73
ANALYSIS OF ASSISTED HOUSING UNITS AT RISK OF CONVERSION	D-76
Inventory of Units at Risk of Losing Use Restrictions	D-76
Sources	D-76
Analysis of Units at Risk (By Program Category)	D-83
Cost Analysis of Preserving Versus Replacing At-Risk Units	D-92
Resources for Preservation	D-94
Quantified Objectives: Number of At-Risk Units to be Preserved	D-97
Program Efforts to Preserve At-Risk Units	D-97
REFERENCES	D-102
ADDENDUMS	
1. RICHMOND, CALIFORNIA NEW HOUSING 1985-1991: SUMMARY REPORT	
2. CITIZEN REVIEW PROCESS FOR 1990 HOUSING ELEMENT REVISION	
3. WORKPLACE OF RICHMOND'S LABOR FORCE AND JOBS/HOUSING BALANCE	
E. SURVEY OF COMMUNITY FACILITIES	E-1
RECREATION & PARK FACILITIES	E-1
Definitions	E-1
Findings	E-6
General Findings	E-6
Findings Related to Park Standards	E-16

TABLE OF CONTENTS -- CONTINUED

Highlighted Findings Related to Specific Service Districts	E-18
Recommended Standards	E-19
OPEN SPACE	E-19
Park Lands	E-20
Watershed Land	E-20
Federal Land	E-21
Existing Open Space in General Plans	E-21
Shoreline Public Access	E-21
PUBLIC SAFETY FACILITIES	E-22
Police Services	E-22
Fire Fighting and Prevention Services	E-25
Ambulance Services	E-27
Emergency/Disaster Management	E-27
PUBLIC INFRASTRUCTURE FACILITIES	E-29
Sanitary Sewer Facilities	E-29
Flood Control and Storm Drainage Facilities	E-30
Solid Waste Disposal Facilities and Management	E-31
Public Utility Facilities	E-33
Telecommunications Facilities	E-34
Local Government Facilities	E-34
HUMAN SERVICES FACILITIES	E-35
Public School Facilities	E-35
Child Care	E-36
Medical Facilities	E-38
Handicapped Facilities and Services	E-38
Senior Citizen Services	E-38
Family Services	E-39
Transportation Services	E-40
Employment Services	E-41
Housing Services	E-42
Legal Services	E-42
Other Human Services Facilities and Resources	E-42
ARTS AND CULTURAL FACILITIES	E-43
REFERENCES	E-45

TABLE OF CONTENTS -- CONTINUED

ADDENDUMS

1. 1992 RATIO OF PARK ACRES PER 1000 PERSONS IN RICHMOND'S SERVICE DISTRICTS

F.	SURVEY OF TRANSPORTATION AND CIRCULATION	F-1
	TRAFFIC NETWORK	F-1
	Freeways	F-1
	Parkway	F-1
	Major Thoroughfares	F-1
	Secondary Thoroughfares	F-2
	SCENIC ROUTES	F-2
	Scenic Routes	F-2
	Scenic Corridors	F-2
	Scenic and Landscaped Freeways	F-2
	PUBLIC TRANSPORTATION NETWORK	F-2
	AC Transit	F-3
	Bay Area Rapid Transit System (BART)	F-3
	Amtrak	F-4
	Greyhound Bus System	F-4
	Paratransit	F-4
	RAILROAD NETWORK	F-5
	MARITIME FACILITIES	F-7
	NON-MOTORIZED ACCESS	F-7
	Trails and Pedestrian Walks	F-7
	Bicycles	F-7
	RELATION TO LAND USE	F-9
	Overview	F-9
	Proposed Projects	F-9
	Land Use Analyses	F-9
	LEVEL OF SERVICE ANALYSIS	F-11
	Traffic Service Standards and Programs	F-12
	REFERENCES	F-16
	ADDENDUMS	
	1. LIST OF MAJOR THOROUGHFARES	
	2. LIST OF SECONDARY THOROUGHFARES	

TABLE OF CONTENTS -- CONTINUED

3. SCENIC ROUTES AND SCENIC CORRIDORS
4. PRESENT AND PROPOSED AC TRANSIT ROUTES
5. PORT PROFILE, PORT OF RICHMOND
6. PLANNED ROADWAY IMPROVEMENTS
7. OVERVIEW OF LOS ANALYSIS

10-1	10-1	10-1	10-1
10-2	10-2	10-2	10-2
10-3	10-3	10-3	10-3
10-4	10-4	10-4	10-4
10-5	10-5	10-5	10-5
10-6	10-6	10-6	10-6
10-7	10-7	10-7	10-7
10-8	10-8	10-8	10-8
10-9	10-9	10-9	10-9
10-10	10-10	10-10	10-10
10-11	10-11	10-11	10-11
10-12	10-12	10-12	10-12
10-13	10-13	10-13	10-13
10-14	10-14	10-14	10-14
10-15	10-15	10-15	10-15
10-16	10-16	10-16	10-16
10-17	10-17	10-17	10-17
10-18	10-18	10-18	10-18
10-19	10-19	10-19	10-19
10-20	10-20	10-20	10-20
10-21	10-21	10-21	10-21
10-22	10-22	10-22	10-22
10-23	10-23	10-23	10-23
10-24	10-24	10-24	10-24
10-25	10-25	10-25	10-25
10-26	10-26	10-26	10-26
10-27	10-27	10-27	10-27
10-28	10-28	10-28	10-28
10-29	10-29	10-29	10-29
10-30	10-30	10-30	10-30
10-31	10-31	10-31	10-31
10-32	10-32	10-32	10-32
10-33	10-33	10-33	10-33
10-34	10-34	10-34	10-34
10-35	10-35	10-35	10-35
10-36	10-36	10-36	10-36
10-37	10-37	10-37	10-37
10-38	10-38	10-38	10-38
10-39	10-39	10-39	10-39
10-40	10-40	10-40	10-40
10-41	10-41	10-41	10-41
10-42	10-42	10-42	10-42
10-43	10-43	10-43	10-43
10-44	10-44	10-44	10-44
10-45	10-45	10-45	10-45
10-46	10-46	10-46	10-46
10-47	10-47	10-47	10-47
10-48	10-48	10-48	10-48
10-49	10-49	10-49	10-49
10-50	10-50	10-50	10-50
10-51	10-51	10-51	10-51
10-52	10-52	10-52	10-52
10-53	10-53	10-53	10-53
10-54	10-54	10-54	10-54
10-55	10-55	10-55	10-55
10-56	10-56	10-56	10-56
10-57	10-57	10-57	10-57
10-58	10-58	10-58	10-58
10-59	10-59	10-59	10-59
10-60	10-60	10-60	10-60
10-61	10-61	10-61	10-61
10-62	10-62	10-62	10-62
10-63	10-63	10-63	10-63
10-64	10-64	10-64	10-64
10-65	10-65	10-65	10-65
10-66	10-66	10-66	10-66
10-67	10-67	10-67	10-67
10-68	10-68	10-68	10-68
10-69	10-69	10-69	10-69
10-70	10-70	10-70	10-70
10-71	10-71	10-71	10-71
10-72	10-72	10-72	10-72
10-73	10-73	10-73	10-73
10-74	10-74	10-74	10-74
10-75	10-75	10-75	10-75
10-76	10-76	10-76	10-76
10-77	10-77	10-77	10-77
10-78	10-78	10-78	10-78
10-79	10-79	10-79	10-79
10-80	10-80	10-80	10-80
10-81	10-81	10-81	10-81
10-82	10-82	10-82	10-82
10-83	10-83	10-83	10-83
10-84	10-84	10-84	10-84
10-85	10-85	10-85	10-85
10-86	10-86	10-86	10-86
10-87	10-87	10-87	10-87
10-88	10-88	10-88	10-88
10-89	10-89	10-89	10-89
10-90	10-90	10-90	10-90
10-91	10-91	10-91	10-91
10-92	10-92	10-92	10-92
10-93	10-93	10-93	10-93
10-94	10-94	10-94	10-94
10-95	10-95	10-95	10-95
10-96	10-96	10-96	10-96
10-97	10-97	10-97	10-97
10-98	10-98	10-98	10-98
10-99	10-99	10-99	10-99
10-100	10-100	10-100	10-100

TABLE OF CONTENTS -- CONTINUED

LIST OF TABLES

		<u>PAGE</u>
B-1	Air Quality Data Summary 1985-1989	B-25
C-1	Facilities Which Treated or Disposed of Hazardous Waste On-Site in 1986	C-7
C-2	Richmond California Superfund Sites	C-8
C-3	Largest Hazardous Waste Generators: Chevron Chemical, Ortho Division	C-10
C-4	Largest Hazardous Waste Generators: Chevron U.S.A. Inc.	C-11
C-5	Largest Hazardous Waste Generators: Witco Corp., Argus Division	C-12
C-6	Sound Levels Identified by the Environmental Protection Agency as Requisite to Protect the Public Health and Welfare with an Adequate Margin of Safety	C-24
C-7	Federal Highway Administration Noise Abatement Criteria	C-26
C-8	1990 and 2010 Roadway Traffic Data	C-29
C-9	Railroad and BART Operations Assumptions	C-39
C-10	Noise Measurement Results	C-41
D-1	Total Population	D-6
D-2	Household Population	D-6
D-3	Households	D-7
D-4	Persons Per Household	D-7
D-5	Mean Household Income	D-8
D-6	Population by Age and Sex: Contra Costa County	D-8
D-7	Ethnic Characteristics of Richmond Population 1990	D-12
D-8	Richmond, California Population by Major Ethnic Groups and by Hispanic: 1990 Compared to 1980	D-13
D-9	Detailed Breakdown of Ethnic Population Richmond, California 1990	D-14
D-10	Characteristics of Richmond Housing Stock 1990	D-17
D-11	Richmond Occupied Housing Units 1990: Breakdown by Tenure and Ethnic Group	D-18
D-12	Tables of Housing Assistance Needs and Goals from City of Richmond Housing Assistance Plan 1988-1991	D-22
D-13	Overcrowded Housing - Richmond 1980 - by Ethnic Groups	D-23
D-14	Substandard Units Due to Overcrowding Richmond 1980 - by Ethnic Groups	D-23

TABLE OF CONTENTS -- CONTINUED

LIST OF TABLES, CONT.

D-15	Income/Poverty - Richmond - by Ethnic Groups - 1980	D-24
D-16	Structurally Substandard Housing Units 1980 - Richmond - by Ethnic Groups	D-24
D-17	Substandard Housing Units by Race	D-25
D-18	Lower Income Households in Substandard Units by Race	D-25
D-19	Very Low and Lower Income Households Paying in Excess of 30% of Income for Rent	D-26
D-20	Emergency Shelter, Transitional Housing, & Permanent Housing for Homeless Persons - West Contra Costa County (As of January 1992)	D-31
D-21	Residential Construction Cost per Permit, 1980-1989, In Constant 1988 Dollars, San Francisco Bay Area	D-51
D-22	Residential Development Potential by Zoning Categories - Richmond, California	D-56
D-23	Potential Major Private Sites for New Residential Development	D-58
D-24	City of Richmond Zoning Summary	D-63
D-25	1980-1990 Actual Net Added Housing Units vs. Regional Need Allocation by Income Distribution: Richmond, California	D-64
D-26	Richmond New Housing Objectives for 1985-1989 by Income Category	D-65
D-27	1985-1989 Actual Net Added Housing Units by Type of Units & Income Category: Richmond, California	D-65
D-28	Housing Units Built, Demolished, Net Added: Richmond, California 1980 - 1989	D-66
D-29	Production of Very Low & Low Income Housing Units in Richmond, California 1980-1990	D-68
D-30	San Francisco Bay Area Cities With the Highest Percentage of Subsidized Households - 1990	D-70
D-31	Inventory of Units At Risk July 1990 - June 1995 Richmond, California	D-78
D-32	Inventory of Units At Risk July 1995 - June 2000 Richmond, California	D-81
D-33	Inventory of Units At Risk July 2000 and Thereafter - Richmond, California	D-82
D-34	Unit Types and Number of Senior Units in Section 8 Projects - Richmond, California	D-84

TABLE OF CONTENTS -- CONTINUED

LIST OF TABLES, CONT.

E-1	Current Parks Inventory	E-3
E-2	Current Recreation Facilities Inventory	E-7
E-3	East Bay Regional Park District Facilities in Richmond Area	E-10
E-4	Richmond's 11 "Service Districts": Population, Existing and Planned Parks and Recreation Facilities	E-13
E-5	Crime Rates 1990: Richmond, Other Bay Area Cities, and State of California	E-24
E-6	Richmond Fire Stations	E-25

SECTION A

INTRODUCTION TO THE TECHNICAL APPENDIX

The Richmond General Plan is analogous to the City's constitution. Because it is a general plan, intended to guide, with periodic updates, the community's long-range development, it contains broad-based language. Its goals and policies represent the City's overall philosophy on public and private development and provide a foundation for public and private decision making on related issues.

Richmond's General Plan addresses those issues which are required by California state law, as well as others which may affect the community. Each issue is addressed through data and analysis, policy, and implementation programs.

The Richmond General Plan consists of two volumes:

- o **Volume One**, containing the goals, policies, guidelines, standards, land use designations, and implementation programs; and
- o **Volume Two** (Technical Appendix), containing background technical material that supports and provides the basis for the goals, policies, guidelines and other components of Volume One.

The Volume Two Technical Appendix contained herein is an updated and concise version of the Draft Technical Appendix for the Richmond General Plan, originally dated January 1990 with an updated version printed in April 1992. These earlier versions of the Technical Appendix were used by the City of Richmond staff, Planning Commission, City Council and a wide range of citizen and community groups during the General Plan update process which began in 1989.

The final Volume Two Technical Appendix omits certain background materials that were included in the earlier versions of the Technical Appendix and used during the General Plan update process, but which are not essential to be adopted as part of the City's official General Plan. These materials included: (a) information on public and private projects that were active or proposed at the time of the General Plan update process, information that has since become outdated; (b) a survey of existing policy plans at the local, county, regional, state and federal levels; (c) an urban design and visual analysis of the Richmond area; and (d) a survey of the local economy.

The Volume Two Technical Appendix contains the following major sections:

- o Survey of Natural Factors -- topography, geology and soils, seismic hazards, sea level rise, hydrology and water quality, vegetation and wildlife, and climate and air quality;
- o Survey of the Built Environment -- visual features, archaeological and historic resources, electromagnetic fields, hazardous waste management, and the noise environment;
- o Survey of Population and Housing -- population characteristics, housing characteristics, housing needs assessment, housing constraints, inventory of residential land, evaluation of Richmond's housing production, and analysis of assisted housing units at risk of conversion;
- o Survey of Community Facilities -- recreation and park facilities, open space, public safety facilities, public infrastructure facilities, human services facilities, and arts and cultural facilities; and
- o Survey of Transportation and Circulation -- traffic network, scenic routes, public transportation network, railroad network, maritime facilities, non-motorized access, relationship of transportation to land use, and traffic level of service (LOS) analysis.

The materials contained in the Technical Appendix represent a compilation and update of information gathered from a number of technical reports, documents and studies that have been prepared by and for the City. References are included at the end of each section. A significant portion of the material came from the previous General Plan elements and background materials, including the Technical Memorandum No. 2 for the Shoreline Conservation and Development Strategy (prepared by Hall Goodhue Haisley and Barker), the Environmental Analysis of Western Contra Costa County prepared as part of the Tri-Cities Seismic Safety and Environmental Resources Study, and the housing needs assessment and other housing-related analyses required by the State as part of the Housing Element.

It should be noted that much of the graphic and tabular material contained in the Technical Appendix has been generalized, and therefore should not be used to provide specific information about an individual land parcel or a particular segment of industries.

SECTION B

SURVEY OF NATURAL FACTORS

Historically, the City of Richmond has been an industrial center. During the 1980's the pressures of increased urbanization throughout the San Francisco Bay Area raised major concerns relative to the preservation of the environment and its unique natural features. The information contained in the following section is a summary of key natural and environmental factors that influence the City of Richmond. Factors that were investigated include topography, geology and soils, seismic hazards, sea level rise, hydrology and water quality, vegetation and wildlife, and climate and air quality.

TOPOGRAPHY

"Topography" refers to the physical features or configuration of the land surface such as the hillsides, lakes, shoreline, and man-made features such as bridges, reservoirs and roads.

Topographically, the City of Richmond is characterized by a large flat area (the Bay Plain) and a series of three southeast-northwest trending ridges: the San Pablo-Potrero Hills ridge and the San Pablo and Sbrante Ridges. The most notable ridgeline is that of the San Pablo-Potrero Hills range which extends in a northwest direction along the San Pablo Peninsula from the Santa Fe Channel to Point San Pablo. The elevation of the range rises from sea level to over 400'. Brooks Island, Castro Rocks and Red Rock Island are part of the same geologic formation.

This most westerly of the ridges is separated from the other ridges by the Bay Plain. The Bay Plain is characterized by a long marshy and hilly shoreline, and by extensive flatlands where the population of Richmond is concentrated. The other two ridges, the San Pablo and Sbrante Ridges are the western most extension of the Briones Hills, a complex of hills and valleys noted for its rugged topography and unstable slopes. Between the Berkeley Hills and San Pablo Ridge is Wildcat Canyon, a rugged, wild area, owned in large part by the East Bay Regional Park District. On the north side of the San Pablo Ridge, the valley of San Pablo Creek (known as the El Sbrante Valley) separates San Pablo Ridge from Sbrante Ridge (see Figure B-1 at end of Section B).

Point Pinole Park is part of a plateau that is an extension of the Berkeley Hills/San Pablo Ridge. Changes in elevation within the park range from sea level to 100'. The southern edge of the plateau is formed by San Pablo Creek, and steep slopes of the San Pablo Ridge. Although the Berkeley Hills are not included within the Study Area, their presence as a major landform with elevation heights of 1500' cannot be overlooked.

Due to numerous projections of bedrock along the shoreline, many familiar landmark points can be located. Among these are Point Isabel, Point Richmond, Castro Point, Point Molate, Point Orient, Point San Pablo, and Point Pinole. Between the points can often be found coves where beaches, marshes and mudflats have occurred. Special coves of interest are the Albany Mudflats, Point Isabel to Marina Bay, Point Richmond, Point Molate, and just south of Point Pinole Park.

GEOLOGY AND SOILS

Geology

"Geology" refers to the science dealing with the origin, structure, and history of the earth and its inhabitants as recorded in the rocks. (See Addendum 1, Glossary at the end of this Section for definitions of technical words.)

Richmond is underlain by a complex assemblage of "Basement Rocks" known as the Franciscan Formation. The Franciscan Formation consists of sedimentary and volcanic rocks that accumulated to a thickness of more than 50,000 feet, probably in a deep part of the oceanic basin beyond the continental slope, during Late Jurassic to Late Cretaceous time. The time interval represents the geologic time during which the rocks were deposited. In this case, the Jurassic and Cretaceous time period lasted from 46 to 72 million years.

A wide variety of rock types are common to the Franciscan Formation. In their fresh, unweathered, unsheared states, most of these rock types are dense, hard, and resistant and form ground that will be relatively stable during earthquake shaking. However, where intensively sheared and/or weathered, these rocks disintegrate into much less stable ground, and the slopes underlain by these sheared materials are much less stable than areas of outcropping hard rock.

Above the Franciscan Formation lie tertiary marine and non-marine sedimentary and volcanic rocks. Outcrops of marine sedimentary rocks formed when the sea invaded the area south of Santa Rosa in Miocene and Eocene time (24 to 5 million years ago) are very limited in Richmond (see Figure B-2, Area D). However, Miocene and Eocene rocks are represented by a sequence of hardened sandstone and shale. On the surface in shallow areas and under the bay waters is a combination of alluvium and bay mud.

The bedrock geology mapped in the El Sobrante Valley area by geologic/geotechnical investigations for environmental impact reports confirmed the presence of the Contra Costa Group (see Figure B-2, Area E), a formation of poorly sorted sedimentary rocks consisting mostly of sandstone and siltstone. However, portions of the bedrock consists of marine sedimentary rocks, primarily

Figure B - 2

mudstone and siltstone with lesser amounts of sandstone, of Miocene age (24 million to five million years ago). For the purpose of the General Plan update a special geotechnical study of the El Sobrante Valley was completed by Alan Kropp & Associates, Inc. An abbreviated form of this report is included as Addendum 2 at the end of this Section.

The San Pablo/Potrero Hills range and the hills within the Richmond Annex area consist of Franciscan out-crops (See Figure B-2, Area C. This formation is composed of sandstone, serpentine, chert, greenstone, and metamorphic rocks. In geologic time comparisons, the Franciscan Formation is the oldest exposed geology in the region. In an unsheared state, these rocks are dense and hard and relatively stable during earthquake shaking. Soils formed on the steep slopes tend to be shallow and well drained.

Point Isabel, Brooks Island, and Red Rock Island all display outcrops of the Franciscan Formation. There are some differences however, between the islands. Red Rock is mostly comprised of chert; Brooks Island is largely sandstone and shale; and Point Isabel contains a greater variety of rocks within the assemblage.

Point Pinole Park and the San Pablo Plateau lie within the Contra Costa Group (see Figure B-2, Area E). Exposures of this formation are evident east and north of the Berkeley Hills. These rocks are a friable, weakly constructed conglomerate of sandstone and siltstone, and contain significant amounts of clay material. Soils that develop on these rocks tend to be clay rich and susceptible to shrinking and swelling with a high potential for landslides on steep slopes.

The majority of the coastal lowland areas (See Figure B-2, Area B) are deep alluvium soils on top of the Franciscan assemblage. Alluvium is typically a mixture of inter-bedded stiff clays, silts, gravel, and sands. Portions of these soils are derived from the eastern hills and others were deposited by marine actions during the formation of San Francisco Bay.

The uppermost geologically recent sediment is a marine deposit of soft grey silty clay known as bay mud. There is probably some inter-layering with sands and silts near the shoreline. Bay mud deposits underlie the Marina Bay area, the Santa Fe Channel, lands west of Castro Street and areas west of North Richmond (See Figure B-2, Area A).

The geologic conditions found in the Hilltop Mall area are similar to those found at the Hilltop Tank Farm West site and Hilltop Green residential subdivision. The area is characterized by a series of low ridges and shallow swales. These ridges and swales reflect the geological structure of the bedrock. The Orinda formation is the underlying rock material. The Orinda formation consists of materials ranging from partially consolidated (partially rocklike)

claystone, siltstone, sandstone and conglomerates to unconsolidated clay, silt, sand and gravel. A layer of tuff (compacted volcanic fragments) is present within the Orinda formation.

Soils

"Soils" are naturally occurring complexes of silt, sand, clay, minerals, and organic materials.

Soils constitute the foundation for vegetation and wildlife and are important for man-made development as well. Soil, water, and plants form a complex interrelationship; disturbing the soil triggers events with far-reaching ecological effects.

Excessive erosion is the basic soil conservation problem. Gullied hillsides and silt-choked streams are the results of soil mismanagement. Erosion refers to the wearing away of land by running water, wind, or other agents. While erosion is a natural geologic process, the process is greatly accelerated by man's activities.

Five major factors affect the rate of natural erosion and also influence how much erosion will be caused by man's activities. These factors are: geology, slope, vegetation, soils, and rainfall. The geologic formation of certain types of rocks are more susceptible to landsliding than others and do not resist erosion by water as well. For instance, many landslides occur in the "Contra Costa" rock formation located southwest of San Pablo Dam Road. Thus, these rocks have some of the highest erosion rates in the San Francisco Bay Area.

The U.S. Soil Conservation Service has completed a detailed study of soils in the Richmond area. There are 37 individual soil types, grouped into 22 different soil series, in the area. Twenty-two of these soil types constitute the eight major soil series and one miscellaneous soil type that covers over 90 percent of the Tri-Cities area (Richmond, El Cerrito, and San Pablo). The nine soil series and miscellaneous types in descending order of coverage, are: Millsholm, Tierra, Clear Lake, Los Osos, urban land, Reyes, Los Gatos, Diablo and Conejo. Their characteristics are described in the Environmental Analysis, Tri-Cities Seismic Safety and Environmental Resources Study, (pgs.56 - 95), a joint Planning Study for the Cities of El Cerrito, Richmond and San Pablo, September 1, 1973.

Mineral Resources

"Minerals" are any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding

geothermal resources, natural gas and petroleum. Rock, sand, gravel and earth are also considered minerals when extracted by surface mining operations.

Mineral production in the Planning Area has been largely limited to sand, gravel and rock products. As the region becomes more urbanized, the demand for these basic building materials will increase. However, the process of urbanization tends to restrict the availability of these mineral resources.

The Surface Mining and Reclamation Act (SMARA) of 1975 established State policy for the reclamation of mined lands. SMARA requires local governments to obtain reclamation plans from operators for surface mining operations before surface mining may proceed. SMARA's objective is the conservation and management of mineral resources designated as having statewide and/or regional significance. In April of 1987, the State Mining and Geology Board produced a report describing construction aggregate deposits in the Planning Area designated as significant. To protect these deposits, SMARA requires State agencies to implement a mineral lands inventory process termed classification-designation. The Department of Conservation, its Division of Mines and Geology, and the State Mining and Geology Board are the State agencies responsible for administering this process.

The "classification-designation" process is a two-step inventory of mineral resources conducted by the State Division of Mines and Geology. "Classification" is the process of identifying lands containing significant mineral deposits. "Designation" is the formal recognition of areas containing mineral deposits of regional or statewide significance that should be protected from land uses incompatible with mineral extraction. The mineral deposits within the City of Richmond have been classified. The formal designation was completed in 1987.

The California Department of Conservation under the direction of the State Mining and Geology Board has classified lands within the City of Richmond's Planning Area which contain regionally significant quantities of aggregate materials. The mineral resources areas within the Planning Area can be found on the Open Space and Conservation Map (Available in the Planning Department).

The source of aggregate material in the area is sandstone and shale. The sector has been designated under Mineral Resource Zone-2 (MRZ-2). Classification of an area as MRZ-2 indicates the existence of a deposit that meets certain criteria for value and marketability. Materials from this deposit are suitable for use as construction material such as Portland cement concrete, asphaltic concrete, blacktop, railroad ballast, stucco and fill.

Sector W-1. Sector W-1 is located on the knobby bayfront hills of the San Pablo Peninsula. San Pablo Bay runs along the entire

northeastern boundary of the parcel. Property to the south is undeveloped. Other potential sources of crushed rock exist along the San Pablo Peninsula but cannot be mined because of the tank farm on the ridge to the west.

Sector W-2. Sector W-2 is located to the south of Sector W-1 about one-quarter mile north of the Richmond-San Rafael Bridge toll plaza. This quarry has been in production since 1907. The principal uses for material from this quarry have been riprap, railroad ballast, and aggregate.

Sector W-3. Sector W-3 is located on the eastern slope of Point Potrero and contains Richmond's second crushed stone quarry operation. This Sector also contains a clay quarry which began operation in 1907. The clay derived from Franciscan shale, was used in the manufacture of fire brick and other brick products. Park land abuts the parcel's western boundary. Canal Boulevard is located to the east of the parcels. Across Canal Boulevard are several bulk liquid storage facilities and related terminals and the Richmond Harbor Channel. A small tank farm is located to the south.

Sectors W-2 and W-3 are not threatened by urban development due to their remote location, restrictive zoning, and lack of competing land uses. These parcels will remain potentially available to meet future demands in the region. While sector W-1 still continues to produce aggregate material, various proposals for development are being considered in and adjacent to the site.

Reclamation is the combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from mining operations. This is required so that mined lands are reclaimed to a usable condition which is readily adaptable for alternate land uses and create no danger to public health and safety. The process may extend to affected lands surrounding mined lands, and may require backfilling, grading, resoiling, revegetation, soil compaction, stabilization, and other measures. "Reclamation ordinance" refers to the standards adopted by the City which govern all reclamation projects. "Reclamation plan" is site specific and refers both to the procedure which will be utilized and the anticipated end result.

SEISMIC HAZARDS

"Seismic Hazards" occur as a result of earth tremblings initiated by a sudden jar or shock associated with faulting.

The City of Richmond is located within the Coast Ranges Geomorphic Province Region. This region extends from Northern California to the Transverse Ranges in Southern California. This rugged terrain was created by tectonic forces that compressed ancient sedimentary

deposits into a subparallel series of anticlines (concave downward) and synclines (concave upward). These folds were subsequently right-laterally faulted, uplifted and eroded into their present configuration. Repeated tectonic events in the San Francisco Bay Area resulted in a complex geologic structure with numerous folds, faults and cross faults. Today, the most significant manifestation of these forces is the San Andreas Fault system, a group of active faults that were responsible for at least five major Bay Area earthquakes in the last 200 years.

Faults

"Faults" are fractures in the earth's crust along which earth movements have taken place.

The Alquist-Priolo Special Study Zones Act (Sections 2621 to 2625, inclusive of the California Public Resources Code) charges the State Geologist with responsibility for preparing maps delineating Special Studies Zones of appropriate width to encompass all potentially and recently active fault traces. Active faults are generally defined as those faults which show evidence of any or all of the following:

1. Topographic or physiographic expressions suggestive of recent fault movement.
2. Fault creep indicated by distortions of the works of man.
3. Records of surface rupture in historic times, either within or adjacent to the study area.
4. A history of seismic activity as recorded by instrumental means.

The State Mining and Geology Board has adopted policies and criteria which pertain to those projects which fall under the purview of the Alquist-Priolo Act. Within the Richmond Planning Area there is one Special Study Zone and it encompasses the Hayward Fault.

The Hayward Fault runs approximately along the west ridge of Wildcat Canyon (see Figure B-3 at end of Section B). It crosses through Parchester Village and extends into San Pablo Bay. There have been two incidents of major earthquakes along the Hayward Fault occurring on June 10, 1836 and October 21, 1868. Both of these quakes are estimated to have been equivalent to greater than 7.0 on the Richter scale. On the Hayward Fault, a maximum earthquake with a magnitude between 7.0 and 7.5 may recur at 50 to 100-year intervals.

Running parallel to the Hayward Fault, and considered to be an inactive branch of the Hayward Fault, is the Wildcat Fault which transects the Hayward Fault near Alvarado Park. The Wildcat fault was removed from the Alquist-Priolo Special Studies Zones because of the lack of documented evidence for historic activity. (See also the discussion of faults in Addendum 2 to this Section.)

An active fault which could produce some serious consequences to Richmond, even though it is not in the immediate Planning Area, is the San Andreas Fault located 15 miles to the west. The greatest earthquake experienced in historic times occurred along the San Andreas on April 18, 1906, with a magnitude of 8.0+ on the Richter Scale. In 1979, a minor earthquake occurred along the San Andreas Fault. An earthquake with a magnitude of 7.1 on the Richter Scale occurred in October 1989. The recurrence interval for an earthquake on the San Andreas Fault with a magnitude of 8.3 ranges from 100 to 1,000 years.

Smaller magnitude earthquakes will likely occur more frequently on these major faults. Furthermore, other major faults in the region may affect the Richmond Planning Area. Three moderate earthquakes occurred along the Calaveras Fault in 1980 and the Morgan Hill Earthquake of 1984 also occurred on this fault.

In addition to the Wildcat Fault, other inactive faults within the Planning Area include the San Pablo Fault, the Franklin Fault, and the Pinole Fault. The San Pablo Fault is thought to transverse through the southwest portion of Richmond transecting the Ford Peninsula and the northern side of the San Pablo Peninsula.

Ground Shaking

Seismically induced ground shaking could cause deformation of the ground surface and cause major damage to buildings during an earthquake. This effect is commonly known as lateral spreading and lurching. Predictions of damage resulting from ground shaking is based on the concept that ground response is partly determined by the thickness of the alluvium or consolidated material overlying the bedrock. The depth to bedrock can be classified into 5 zones: (See Figure B-4 at end of Section B)

Zone A: This zone consists of areas with little or no soil cover. These areas will not experience as severe shaking as the other zones since a lack of soil cover does not allow amplification of shaking.

Zone B: This zone covers the area underlain by alluvial thickness of 50 feet or less. It represents the area of the shallowest deposits of alluvium, and is, generally speaking, the zone where low rise structures are most vulnerable to damage.

- Zone C: This zone covers the area underlain by 50 to 200 feet of alluvium. This zone will experience lower acceleration rates than Zone B, but greater than Zones D and A.
- Zone D: This zone covers the area underlain by more than 200 feet of alluvium. It can be expected that high rise structures are very vulnerable to damage in this zone.
- Zone E: This zone shows the areas of bay mud and/or artificial fill outside the 1850 bay shoreline where the thickness of the alluvium was not determined.

Tsunami

"Tsunami" is a huge sea wave caused by an earthquake, volcanic eruption or other disturbance on the sea floor.

Tsunamis are the largest and most destructive of all ocean waves. Tsunamis or seismic sea waves have been recorded in San Francisco Bay by the U.S. Coast and Geodetic Survey (now National Oceanographic and Atmospheric Administration). The highest wave that has been recorded for the Bay occurred in March 1964 as a result of the Alaskan earthquake. This wave reached a height of 7-1/2 feet at Fort Point. Comparisons of tsunamis at Fort Point and Richmond, indicate wave heights at Richmond to be about 1/2 as high as that at Fort Point. Based on a report by the U.S. Army Corp of Engineers, a probable maximum tsunamis wave about 7.0 feet above Mean Sea Level (MSL) Datum or about 10 feet above MLLW Datum will occur at 500-year intervals. There is not any evidence that major damage has occurred in the City as a result of tsunamis. Any danger from tsunamis in the Richmond Planning Area is expected to be limited to the immediate shoreline areas.

Liquefaction Potential

"Liquefaction" is a process that occurs when sand, silt, or gravel experiences a sudden loss of strength due to water saturation. Similar to landsliding and mud flows, liquefaction is a form of ground failure where the ground does not hold together.

The liquefaction process may cause soil to act in a variety of ways - the soil may act like quicksand and have very little bearing strength; it may cause differential settlement and/or sliding along the liquefied layers; or it may cause structures to subside, tilt and move laterally. Alluvial deposits saturated during the wet season are the most prone to liquefaction. Particularly susceptible are those areas less than 50 feet deep. The following is a classification of liquefaction zones: (See Figure B-5 at end of Section B)

- Zone I: Liquefaction potential present.
Zone II: Liquefaction potential possibly present.

Zone III: Liquefaction potential probably absent.
Zone IV: Liquefaction potential unknown.

Potential liquefaction locations include an alluviated zone along the course of the San Pablo Creek where loose saturated sands and gravel are present, and smaller isolated zones in North Richmond, the Santa Fe rail yards, the Harbor Channel lands to the east, and an isolated band northeast of Marina Bay under the existing Safeway property.

Landslide Potential

"Landsliding" is a form of ground failure where there is a relatively rapid downslope movement of a dry mass of soil, rock and rock debris. The term is often used to include the sliding of wet earth masses such as mudslides and earthflows.

Landsliding is affected by the degree of water saturation, strength of rocks, slope angle, mass and thickness of deposit and type and extent of vegetative cover. There are two areas within the City which have been subject to major landsliding activity in recent years: the El Sobrante Valley where landslides have occurred on both the San Pablo and Sobrante Ridges and the Point Richmond area along the San Pablo/Potrero Hill Range. Other smaller slides have occurred within the Hilltop area and along the more northern reaches of the San Pablo/Potrero Hill Range; however, the geology within these areas is generally more stable than that of the ridges of the El Sobrante area and the Berkeley Hills.

Geologic maps of the El Sobrante area include the mapping of the California Division of Mines and Geology (1973), the Ph.D. dissertation mapping of J.R. Wagner (1978), the United States Geological Survey (1980) and the Geotechnical Data Collection and Review, El Sobrante Valley Area by Allen Kropp & Associates (1991). Each of these maps shows the general distribution of bedrock and surficial deposits, and present an interpretation of geologic structure. The intent of these maps is to provide a preliminary evaluation of the area and require that more detailed analysis be done on specific sites.

On record with the City are numerous soil studies and environmental impact reports that have been prepared on proposed developments in the El Sobrante area. The environmental impact reports are available for public review in the Planning Department while the soils studies are located in the Public Works Department.

Relative to the Point Richmond area, the most recent major landslide activity occurred in 1983 as a result of major rainstorms. Documents relating to landslide repairs and developments within the area are indicated on Figure B-6.

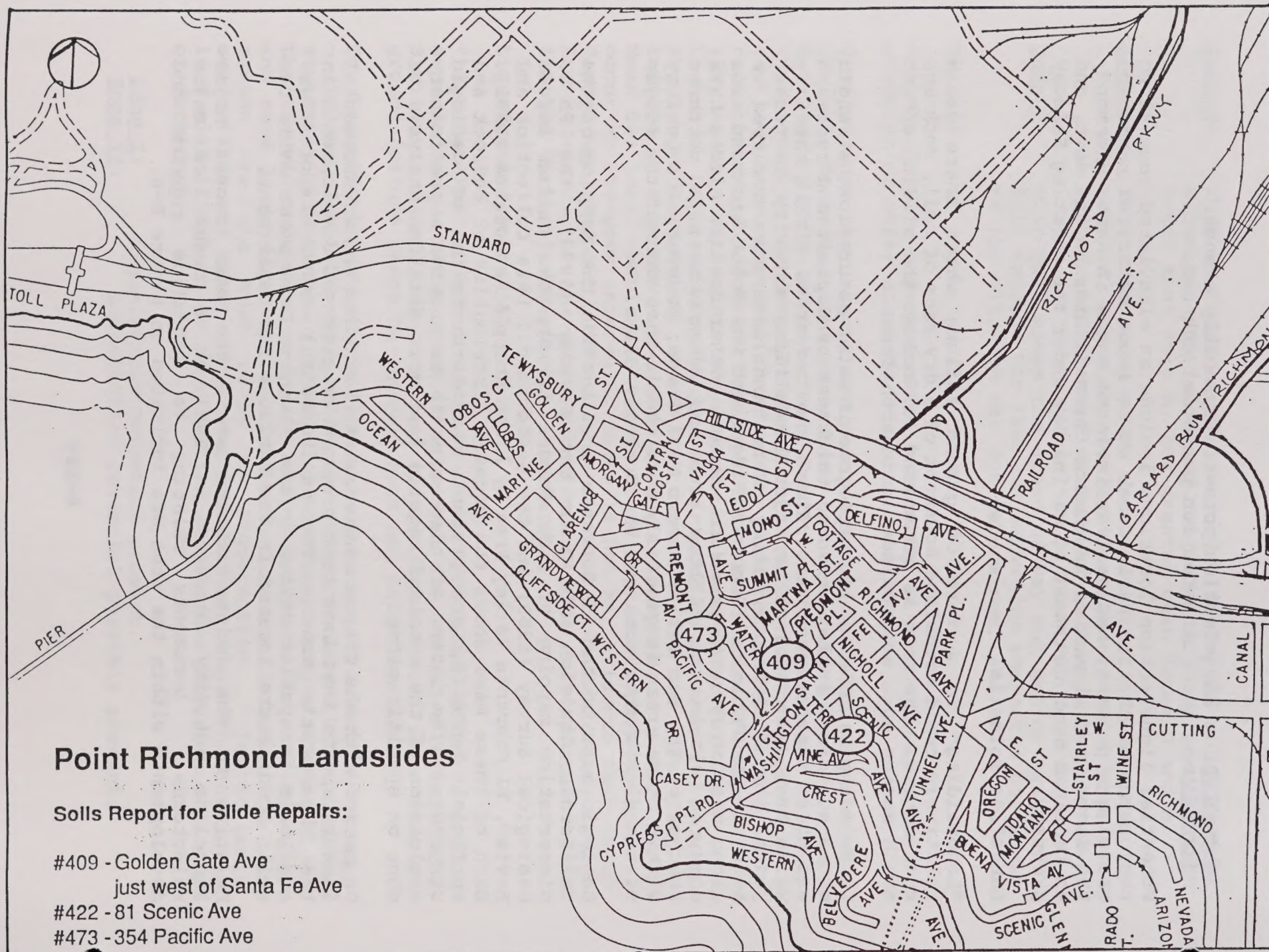


Figure B - 6

Seiches

"Seiches" are earthquake-generated waves within enclosed or restricted bodies of water such as lakes and reservoirs.

Catastrophic damage can result during earthquakes from a dam failure or from large masses of earth that might be broken loose and slide into a reservoir or the Bay. The major risk of seiches in the Planning Area would be that earthquake movement of water within San Pablo Reservoir might burst the dam or overtop it. Given the proposed restoration of San Pablo Creek there is little cause for alarm. Seiche risk within the shoreline area would be minimal because there are no large confined bodies of water.

SEA LEVEL RISE

Another important consideration, however long range, is the possibility of mean sea level rising two to eight feet over the next hundred years. There is considerable uncertainty in these estimates. The Environmental Protection Agency (EPA) suggests using a middle range of about four feet for planning purposes.

In a 1986 report funded by the Bay Conservation and Development Commission titled "An Overview of the Impact of Accelerated Sea Level Rise of San Francisco Bay" by Philip B. Williams, hydrologist consultant, there is strong evidence that the level of the Bay is on the rise due to the "greenhouse effect." This phenomenon is caused by accumulations of carbon dioxide and other gasses in the upper atmosphere leading to warming of the polar ice caps.

The planning implications of this effect on the Bay Area will be to consider building locations in relation to the finish grade elevations. The Bay is anticipated to increase in surface area, therefore low lands not protected by either levees or dikes would certainly be inundated. Increased water levels would also result in salt water encroachment in stream areas and increased sedimentation loading along the margins of the bay.

HYDROLOGY AND WATER QUALITY

Hydrology

"Hydrology" refers to the distribution pattern of water from streams, creeks, ponds, lakes, the bay, the ocean, and groundwater.

"Watershed" refers to that area that may be contributing to flooding or erosion in a creek.

"Surficial Hydrology" refers to the composition of the surface waters e.g., streams, creeks, reservoirs, the bay and the ocean.

The distribution of water within the City of Richmond is influenced by topography, vegetated coverage, non-vegetated surfaces, and degrees of infiltration. Major surface features are the Wildcat and San Pablo Creeks. The Wildcat and San Pablo Creeks drain large areas of the Berkeley Hills and empty into saltwater marshes of San Pablo Bay. Watersheds and surface waterways in the Planning Area are shown in Figure B-7 at end of Section B.

During wet weather conditions, both of these creeks carry large volumes of run-off and occasionally flood areas west of North Richmond. Peak flows on Wildcat and San Pablo Creeks are 2,300 c.f.s and 5,100 c.f.s, respectively. Flat, low-lying sections along the shoreline either drain into existing city streets or infiltrate the ground and drain directly into the bay. Drainage of the San Pablo/Potrero Hill range is relatively rapid due to the steep slopes, with most of the runoff entering the bay through storm drains.

Groundwater is available as a resource and is found in the flatland areas with alluvial soils. The groundwater is a limited resource and could yield at most perhaps one million gallons of water per day. (See also discussion below under Water Quality).

The Army Corps of Engineers began creek restoration projects on both Wildcat and San Pablo Creeks in August, 1986. The main objective is to provide flood protection from the 100-year frequency flood flow event. Additionally, the restoration will help prevent large amounts of sediment from being deposited downstream, thereby increasing the creeks' hydraulic capacity.

Coastal areas along Point Pinole are also subject to the 100-year flood event, and sections between Point Isabel and Marina Bay, as well as marsh and wetlands west of Castro Street, are subject to the 100-year coastal flood event, which takes into account wave velocity. Drainage swales and intermittent streams are also subject to local flooding. (See Figure B-8 at end of Section B).

Water Quality

Regarding water quality within Richmond, there are three major types of water movement systems. Specifically, they are groundwater, surface water, and waters of San Francisco and San Pablo Bays. Ground water use in Richmond is limited primarily to irrigation; the city receives all of its potable water from the East Bay Municipal Utility District (EBMUD). The San Pablo Reservoir is the local EBMUD water storage area for Richmond and surrounding areas.

Ground Water. Due to the clay-rich soils in the sections known as bay mud, drainage is poor. This results in a groundwater basin which is very shallow and susceptible to pollution. There is presently no agency which is directly monitoring ground water

quality as it relates to the whole city. However, during the past several years extensive investigations have been done throughout the region by the Regional Water Quality Control Board (RWQCB) and the State Department of Toxic Substance Control relative to potentially leaking underground storage tanks and abandoned hazardous waste sites which have contaminated or threaten to contaminate ground water. There are a number of specific sites within Richmond that are currently being monitored (see Section C for survey Toxic Waste Hazards).

Surface Water. Surface water quality is dependent on the purity of stormwater run-off. As mentioned in the Final Supplemental Environmental Impact Statement II, Wildcat and San Pablo Creeks, April 1986, Army Corp of Engineers, the only information available is provided by the Regional Water Quality Control Board. Contaminants typically found in surface water include organic metals, pesticides, formaldehyde, phenols, and PCB's. The only water quality data located for the creeks is from 1954, in which San Pablo Creek registered a water temperature of 48.5 F and an 85% saturation level of dissolved oxygen, the ph was 7.8 (within the normal range). Wildcat Creek water samples recorded dissolved oxygen at 90% saturation and ph measured 7.5.

Waters of San Francisco and San Pablo Bays. Water quality in San Francisco and San Pablo Bays has obviously changed since the region was first settled. Diking and filling have decreased the wetlands areas by more than half; freshwater inflow from the Sacramento Delta has drastically been reduced due to water diversion projects in the Central Valley; and wastes have contaminated sediments and organisms.

A February 1986 Science article entitled "The Modification of an Estuary", summarizes the state of San Francisco Bay and its apparent sensitivity to human activities:

"Toxic wastes derived from agricultural and industrial activities have been locally detrimental to birds and bottom dwelling invertebrates. Suggested links between the striped bass decline and contamination with synthetic organic compounds or between physiological stress in bivalves and trace metals, although largely circumstantial indicate that chronic regional effects of contamination exist in San Francisco Bay. There is also evidence that decreased freshwater inflow can contribute to altered balances among plant and animal communities that may lead, for example, to decreases in some fish stocks. In addition, there is an apparent link between river flow and the capacity of the estuary to assimilate wastes."

However, although problems do exist, the Bay is still thriving. More research by the scientific community is needed to adequately comment on San Francisco Bay water quality issues.

VEGETATION AND WILDLIFE

Vegetation

The City of Richmond contains a number of different natural and introduced plant communities. Some of the most important plant communities are located in the marshes and mudflats along San Francisco Bay's shore, amongst the riparian woodlands, willows, buckeyes, bays and alders found along streams in the area, and the upland grass and woodland communities .

Wetlands. According to the San Francisco Bay Conservation and Development Commission, the salt marshes and mudflats produce large quantities of oxygen and either directly or indirectly support most of the Bay's fish and wildlife. Salt marshes also provide a habitat for two endangered animal species, the clapper rail and the salt marsh harvest mouse. The State Department of Fish and Game considers riparian woodland comparable to salt marshes in importance because of the wide diversity of wildlife habitats it provides and the large number of wildlife species it supports.

The water areas of San Francisco Bay contain several different vegetative zones depending upon position of slope and water regime. Vegetation begins in the bay waters along the boundary where marshes and mudflats meet land. These areas are commonly referred to as wetlands, as are all stream corridors and bodies of water. Wetlands mapped by the U.S. Fish and Wildlife Service (FWS) for the shoreline area include, but are not limited to, the marshes along San Pablo and Wildcat Creeks, some lands west of Castro Street, marshes in Point Pinole Park, and marshes between Point Isabel and the Marina Bay area (Figure B-9 at end of Section B). The implication of these mapped zones by the FWS is to require potential users to obtain permits through the Army Corps of Engineers before filling or otherwise altering wetlands.

Regarding plant species which inhabit the marshes, it is generally agreed that certain species are likely to be found depending upon the elevation. A typical tidal salt marsh begins with a band of cordgrass from approximately near sea level to mean high water. Gradually, as the elevation rises, almost pure stands of pickleweed persist between elevations equivalent to the highest tides. Higher elevations will include species such as salt grass, salt bush, and alkali heath. The Wildcat and San Pablo marshes support almost entirely pickleweed, as does the marsh adjacent to the Knox Freeway at Point Isabel. Point Pinole is characterized as being a "low" marsh and supports cordgrass with a gradation to pickleweed. Other plants common to marsh areas include bulrush, saltgrass, gumplant, dodder, and brass button.

Riparian Corridors. There are two major riparian corridors along the shoreline and several minor ones along the creeks. Vegetative zones along Wildcat and San Pablo Creeks support tree, shrub, and ground cover layers because of adequate moisture present. Tree species inhabiting these areas include willows, boxelder, elderberry, California bay, maple, Oregon ash, cottonwood, Coast Live oak, and eucalyptus. Generally, live oak and pine trees occur on tops of banks and blend into the backyards of residential areas. Understory plants include species such as coyote bush, blackberry, willow, watercress and bamboo.

Upland Areas. Alluvial plain areas which occur along the continuum from marsh to plateau traditionally support a grassland community. There are few areas remaining where native grasslands are evident. Presently only a few areas, such as Brooks Island, Point Pinole, and steep slope areas of the San Pablo/Potrero Hill range are noted for their valuable native vegetation. Bunchgrass, needlegrass, rye, and fescue are evident on the island as well as wildflowers, salt bush and giant suncup.

Upland communities can be found in Point Pinole Park and the San Pablo/Potrero Hill range. Within the upland communities are native grasslands, non-native grasslands, brushlands and woodlands. Non-native grasslands are typical in disturbed areas and are dominated by introduced annual grasses and herbs, wild oats, red brome, ryegrass, mustard, and Italian thistle. Brushland communities, depending on degree of exposure will support stands of poison oak, elderberry, toyon, coffee berry, coyote bush, etc. Isolated patches of woodlands occur along the Potrero Hill rangelands in Point Pinole park. Tree species include eucalyptus, Monterey Pine, Monterey Cypress, red alder, madrone, and acacia.

Coastal scrub dominated by coyote brush and oak woodland (scattered oaks in grassland) have moderate wildlife value. However, coastal scrub on San Pablo and Sobrante Ridges provides habitat for a rare snake, the Alameda striped racer (a.k.a. the Alameda Whipsnake).

Some natural areas in Richmond appear to be particularly valuable either because they contain plant or animal communities unique to this area or because they include particularly good examples of typical plant communities. Brooks Island retains a small remnant of native grassland and is a valuable wildlife habitat. A small patch of Goldfields, a wildflower usually found in the San Joaquin Valley, is found south of the Mira Vista Country Club. A chaparral community, which is usually not found this far north, has been located on Sobrante Ridge. Wildcat Canyon contains the best example of a mixed evergreen forest and riparian woodland. The eucalyptus groves on Point Pinole are used by migrating monarch butterflies. Part of the San Pablo Peninsula serves as a deer habitat. The Castro Rocks north of the Richmond-San Rafael Bridge are utilized by the remaining harbor seals to rest with their pups.

Two rare plant species have been located in Richmond. One species is a type of manzanita, and is located in the chaparral community on Sobrante Ridge. The other is a rare wildflower and has been found east of the Mira Vista Country Club. The Contra Costa County Planning Department has prepared a list of all rare, endangered or threatened plants, and areas of natural significance and unique wildlife known to occur in Contra Costa County.

Wildlife

Avian wildlife known to inhabit the marshes of San Francisco and San Pablo Bays is extensive mainly due to the hundreds of bird species who use the area as a feeding and resting site along the Pacific Flyway migration route. Several species are known to rest in the marshes including killdeer, black-necked stilt, American avocet, and snowy egret. Among the list of migratory species common birds such as mallards, pelicans, loons, cormorants and herons can be sighted. Brooks Island and Red Rock Island are known as refuges for these birds, due to an absence of predators and protection of habitat. The water district land adjacent to the San Pablo Reservoir is used by the Aleutian Goose and the Bald Eagle between mid-November and mid-February. The Aleutian Goose is also known to winter on the water district property in the Oursan Valley, adjacent to the Carriage Hills South development. The marshes are also a foraging area for the northern harrier and the black-shouldered kite. Small mammals, such as mice and snakes particularly, inhabit the marshes in higher elevations.

Wildlife seen along the riparian corridors represent a diverse range of species. Diversity and abundance is most prominent within the San Pablo Creek corridor which is the least disturbed. Birds expected to be found in the better quality riparian corridors include towhees, warblers, black phoebe, bushtit, lesser goldfinch, and belted kingfisher. Species more commonly associated with urban-type habitats include sparrow, robins, mockingbirds, etc. Typical small mammals include skunk, raccoon, opossum, rabbit and snakes.

Fish population in both the Wildcat and San Pablo Creeks is limited due to intermittent flows during dry weather. The Department of Fish and Game has planted steelhead trout in Wildcat Creek in an effort to reestablish the steelhead fishery in upper Wildcat Creek Canyon. San Pablo Creek was surveyed for fish composition, health, and abundance in 1981. The three spine stickleback was most commonly captured. There are no anadromous species known to inhabit either creek.

It should be noted that there is a small population of deer inhabiting the San Pablo Peninsula within the Chevron U.S.A. lands. Because these animals are fenced in and have suitable habitat for feeding, it is expected they will remain for some time. Another

interesting specie known to migrate through the area is the Monarch Butterfly, which uses Point Pinole as an over-wintering area.

Marine wildlife includes a broad range of species from tiny organisms to large fish and occasional sea lions. Mudflats are the major benthic habitats in the bay and supply a significant amount of food critical to fish populations. It is here that sediment and organic matter along with locally produced plant matter is converted into forms available to higher trophic levels. A large community of bottom-feeding fish and crustaceans depend upon the production characteristic of the mud bottom. Species that feed in this ecotone include white sturgeon, striped bass, English sole, flounder, shiner perch, softshell clams, and Bay shrimp.

Fish species found in deeper water include herring, striped bass, flounder, shark, etc. Herring is the dominant commercial fishing catch during several months of the year. Occasional sightings of sea lions, seals, porpoises and whales are sighted in bay waters. Castro Rocks remains an area where seals can be seen.

The mix of plant communities in the El Sobrante area provides habitat for a diversity of wildlife. Many wildlife species such as mule deer, are dependent on several plant communities to meet their habitat requirements. Thus, the plant communities form an integrated unit which provides the food, water, cover and nesting sites for the life history of many of the species.

The oak-bay woodland supports a large number of wildlife species. Older trees often have dead limbs and cavities which are used as nesting or den sites for birds. The oak-bay woodland also produces abundant food crops. Acorns provide an important food supply for such species as band-tailed pigeon, raccoon and mule deer. The berry crops of several species, including madrone, poison oak, and coffeeberry, are also important food items.

Typical bird species in these woodlands are Stellar's jay, Nuttall's woodpecker, varied thrush and dark-eyed junco. Gray fox, mule deer and deer mice are common mammal species in these oak-bay habitats. The dense canopy and shrubs of the oak woodland attract species such as orange-crowned warblers, plain titmice, and bushtits. These birds glean insects from the foliage and bark of the oaks and other trees and shrubs. Acorns from the oaks are a source of food for scrub jays and gray squirrels. The thick understory of shrubs provides cover for mule deer, raccoons and opossums. During the rainy season, amphibians such as Pacific tree frogs and California newts are active in the herbaceous understory in these woods.

Chaparral provides cover, food, and nesting substrate for a variety of wildlife. Wrentits and brown towhees live year-round in the chaparral, as do California quail and brush rabbits. Blue-grey gnatcatchers and scrub jays forage and breed in these tall

shrublands. Mule deer forage on California lilac and poison oak berries, and also take cover under these shrubs.

Ungrazed grassland supports California voles, California ground squirrels, deer mice, pocket gophers, and meadowlarks. These small mammals attract predators such as red-tailed hawks, rattlesnakes, gopher snakes and coyotes. Species such as deer, striped skunk, and great horned owl also use the grasslands.

The grazed annual grassland supports a few nesting species such as western meadowlark and lark sparrow. This plant community also provides foraging grounds for birds like savannah sparrows, water pipits, and western kingbirds. These species do not breed in the grassland because of the lack of cover and suitable nesting substrate.

Rare and Endangered Plants and Animals

Species status reflects conditions as of April 1992. The California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the California Native Plant Society should be contacted to update species status. Species' conditions are regularly reviewed, with some species added to the lists of rare, threatened, endangered, candidate, special concern or other special status, while other species are de-listed. The California Department of Fish and Game maintains records of rare and endangered plants along the Richmond Shoreline through the California Natural Diversity Data Base. Known plant and animal locations are mapped and stored in computers on USGS 1:24,000 quad sheets.

Marshlands are mapped as specific units worthy of protection by the California Fish and Game Department. Species such as cordgrass and pickleweed are indicative of Northern Coastal Salt Marshes and should not be removed. The majority of the endangered animal species occur in the marsh areas of Richmond, particularly the Wildcat and San Pablo Creek drainage lands. Both the California Clapper Rail and Salt Marsh Harvest Mouse have received an endangered status, the highest protection possible from Federal and California State legislation. Unique among small mammals of the world, the Salt Marsh Harvest Mouse has the ability to consume salt water for life sustaining processes. The California black rail is a candidate species. Other species of concern are the Soft Bird's Beak, the San Pablo Vole, and the Point Reyes Bird's Beak.

Two endangered plant species and several endangered animal species have been known to occur in the area of the Sobrante/San Pablo Hill ranges. The two plant species include: (1) Alameda manzanita which is listed as endangered by the State; and (2) the Santa Cruz tarplant which is listed as endangered by both the State and Federal governments. The California Native Plant Society classifies a third "sensitive" species, Diablo helianthella, as rare and

endangered, but it has not received an endangered status from either the State or Federal government due to insufficient evidence.

The endangered animal species include the Alameda striped racer or whipsnake, the California tiger salamander, and the Aleutian Canada goose. The Alameda striped racer is listed by the State as threatened and is a candidate species for federal listing as endangered. This species prefers dry habitats of sage vegetation and rock outcroppings associated with streams. It occurs in parts of Alameda and Contra Costa Counties.

The California tiger salamander is a Category 2 candidate for federal listing which means that listing may be warranted but sufficient information is lacking. The species is also listed by the State as a Species of Special Concern. The salamander spends much of its time underground and emerges for short periods of time to breed following rains in December to February.

The Aleutian Canada goose is on the federal listing of endangered species, but is not listed by the State. This goose is known to feed in grazed grasslands, adjacent to two stock ponds on the Nunes Ranch, about a mile, and over a hill, from what is referred to as the Carriage Hills West property. As part of the environmental review for the Carriage Hills project an Addendum to the Final Environmental Impact Report for Carriage Hills West was completed by ESA (July 1989) analyzing the projects potential impact on this species.

Other animal species that may be of concern in the Richmond area include bald eagles, a federally listed endangered species, which prefers roosting habitats near aquatic environments, and golden eagles which are a California Species of Concern and are generally associated with large areas of open habitat and cliffs or tall trees for nesting.

CLIMATE AND AIR QUALITY

Climate

"Climate" refers to the average weather as determined by the temperature, wind velocity and precipitation for an area over a period of years.

Warm, dry summers and cool, moist winters typify the climate of the Planning Area. The climate in Richmond is dominated by its location on the east shore of San Francisco Bay. Seabreezes dominate the area during the spring and summer months. The dominance of the seabreeze results in a mild, relatively cool climate. During the summer months, fog is a common occurrence due to relatively high humidity and low evaporation. Temperatures in the area remain

moderate throughout the year with precipitation occurring during the winter months (approximately 22" per year). Average summer temperatures increase as distance from the coast increases.

Prevailing winds in Richmond come from the southeast and southwest, with some local differences due to varying topography. The strongest average winds occur in summer, however the highest velocity winds take place during winter storm events. Wind speeds are moderate, averaging about 7.3 miles per hour annually. The majority of speeds are 0 to 10 mph with some southeast and southwest winds consistently in the 10 to 15 mph range during winter storm events. Calm conditions occur about 28% of the time annually.

Air Quality

Air quality in the Bay Area is determined by the interplay of pollutant emissions, topography, winds, and temperature inversions. The U.S. Environmental Protection Agency (EPA) established federal air quality standards for several pollutants pursuant to the Federal Clean Air Act of 1970. The act outlines primary standards designed to protect public health and secondary standards to protect public welfare from effects such as visibility reduction, soiling, nuisance and other forms of damage. National Ambient Air Quality Standards have been established for six "criteria" pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), suspended particulate matter (TSP), and lead (Pb). California has adopted ambient air quality standards for criteria and other pollutants.

As required by the Clean Air Act Amendments of 1977, an Air Quality Plan has been adopted for the San Francisco Bay Air Basin. The Act Amendments required that federal air quality standards be obtained by December 31, 1987. As of 1991, the Bay Area was still a non-attainment area for ozone and carbon monoxide (standards are occasionally violated). Congress is considering additional amendments to the Clean Air Act to address those areas of the country that remain in non-attainment, and a new plan will probably be required. On September 19, 1989 a U.S. District Court judge ruled that state and regional agencies had not adopted adequate smog-control measures to reduce ozone and carbon monoxide emissions. He has required agencies to adopt and enforce pollution controls promised in the Bay Area Air Quality Management District's (BAAQMD) 1982 plan to reduce smog. The court ruling is the result of a suit filed by the Sierra Club and Citizens for a Better Environment.

The U.S. Clean Air Act Amendments of 1990 require non-attainment areas to develop plans and strategies that will reduce pollutants

by 15% during the first 6 years, then 3% annually thereafter until the standards are met. Areas must meet the standards within 5 to 17 years, depending on the severity of the problem.

The California Clean Air Act of 1989 requires areas that exceed the California ambient air quality standards to plan for the attainment of the standards. The Bay Area '91 Clean Air Plan (CAP), mandated by the California Clean Air Act, contains control measures for stationary sources and mobile sources and Transportation Control Measures (TCMs) to reduce automobile emissions in the region. The Plan forecasts continued improvement in regional air quality. An analysis of carbon monoxide trends in the region shows attainment of the standards in all areas of the Bay Area by the mid-1990s. However, implementation of the Plan would not result in attainment of the State ozone standard by the year 2000.

The following is a summary of the criteria pollutants:

Ozone (O_3). The most severe air quality problem in the Bay Area is high concentrations of Ozone. O_3 is not emitted directly, but is a secondary pollutant produced in the atmosphere through photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (NOX). It is heavily dependent upon weather patterns and varies substantially from year to year. O_3 can cause eye irritation and impair respiratory functions.

Carbon Monoxide (CO). Carbon Monoxide is emitted primarily by motor vehicles. Ambient CO distributions are strongly influenced by meteorological factors such as wind speed and atmospheric stability. High levels of CO concentrations can impair the transport of oxygen in the bloodstream and thereby aggravate cardiovascular disease and cause fatigue, headaches and dizziness.

Nitrogen Dioxide (NO_2). The major sources of Nitrogen Dioxide which contribute to the formation of photochemical smog are vehicular, residential, and industrial combustion. NO_2 increases damage from respiratory disease and irritation, and may reduce resistance to certain infections.

Sulfur Dioxide (SO_2). The major source of Sulfur Dioxide in the Bay Area is combustion of high-sulfur fuels for electricity generation, for petroleum refining, and for shipping. SO_2 can irritate the lungs, damage vegetation and materials, and reduce visibility.

Total Suspended Particulate (TSP). The most important particulate sources in the Bay Area are demolition and construction activity, and motor vehicle travel over paved and unpaved roads. Very small particulates of certain substances can cause direct lung damage, or can contain adsorbed gases that may be harmful. Particulates can also damage materials and reduce visibility.

Lead (Pb). Although the use of leaded fuel is being reduced, a major source of airborne lead is still from gasoline-powered automobile engines. Lead can cause blood effects, such as anemia and inhibition of enzymes involved in blood synthesis. Lead may also affect the central nervous and reproductive systems.

The Bay Area Air Quality Management District (BAAQMD) operates a regional air quality monitoring network which measures the ambient concentrations of "criteria" pollutants in the Bay Area. The data in Table B-1 was recorded at the Richmond monitoring station located at 1144 - 13th Street and presents a five-year summary of monitoring data.

TABLE B-1
AIR QUALITY DATA SUMMARY 1985-1989
(Number of days standards were exceeded
and maximum concentrations measured)

<u>Pollutant/Standard</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Ozone					
One-Hour > 0.09 ppm	0	0	0	2	1
One-Hour > 0.012 ppm	0	0	0	0	0
One-Hour > 0.20 ppm	0	0	0	0	0
Max. One-Hour Concent (ppm)	0.09	0.07	0.09	0.10	0.10
Carbon Monoxide					
One-Hour > 20 ppm	0	0	0	0	0
Eight-Hour > 9 ppm	0	0	0	0	0
Max. One-Hour Concent (ppm)	8	8	8	10	9
Max. 8-Hour Concent (ppm)	4.3	5.9	4.8	5.0	4.1
Nitrogen Dioxide					
One-Hour $\geq$ 0.25 ppm	0	0	0	0	0
Max. One-Hour Concent (ppm)	0.11	0.13	0.09	0.11	0.11
Total Suspended Particulates					
24-Hour $\geq$ 100 ug/m ³	2/61	0/61	0/61	0/56	0/61
24-Hour $\geq$ 260 ug/m ³	0/61	0/61	0/61	0/56	0/61
Max 24-Hr Concent (ug/m ³)	125	85	99	73	93
Particulate Sulfate					
24-Hour $\geq$ 100 ug/m ³	0/06	0/61	0/61	0/56	0/61
Max. 24-Hr Concent (ug/m ³)	12.7	12.3	9.8	7.9	15.9
Particulate Matter (PM₁₀)					
24-Hour $\geq$ 50 ug/m ³	--	--	--	--	5/48
24-Hour $\geq$ 150 ug/m ³	--	--	--	--	0/48
Max. 24-Hr Concent (ug/m ³)	--	--	--	--	115

ppm = parts per million

ug/m³ = micrograms per cubic meter

Source: California Air Resources Board, 1985-1989

REFERENCES

EIP Associates, Draft Environmental Impact Report on Proposed Clark Road Residential Development, Richmond, California, October 1987.

EIP Associates, Draft Supplemental Environmental Impact Report for Proposed Clark Road Residential Project, Richmond, California, June 1989.

ESA, Draft Environmental Impact Report for Carriage Hills West, Richmond, California, November 1987.

ESA, Addendum to the Final Environmental Impact Report for Carriage Hills West, Richmond, California, July 1989.

ESA, Final Focussed Environmental Impact Report for Richmond Machine and Fabricating, Inc. Liquefied Petroleum Gas Flare Tower, Richmond, California, August 1989.

Hall, Goodhue, Haisley and Barker, Shoreline Conservation and Development Strategy, Technical Memorandum Number 2: Planning Analysis, Richmond, California, July 1986.

Kropp, Alan & Associates, Inc., "Geotechnical Consultations, San Pablo Pointe, Richmond, California," March 1989.

Kropp, Alan & associates, Inc., "Geotechnical Data Collection and Review El Sobrante Valley Area Richmond, California," December 1991.

Tri-Cities Seismic Safety and Environmental Resources Study, Environmental Analysis of Contra Costa County, September 1973.

U.S. Corps of Engineers, Final Supplemental Environmental Impact Statement II Wildcat and San Pablo Creeks, Contra Costa County, California, April 1986.

ADDENDUM 1

GLOSSARY

Aggregate. Materials such as sand, gravel, and crushed rock, with which cement or bituminous material is mixed to make concrete or asphalt.

Alluvium. A general term for material deposited by flowing water in river beds, floodplains, lakes, fans at the foot of the mountain slopes, and estuaries.

Anadromous. Fish that migrate up rivers from the sea to breed in fresh water, as salmon do.

Bedrock. Any solid rock underlying soil, sand, clay, etc.

Clay. A soil texture class that contains more clay than sand or silt.

Colluvium. Soil deposited by soil creep, landslides and surface wash.

Conglomerate. A rock composed largely of rounded pebbles cemented by finer material.

Contra Costa Group. The type of poorly consolidated young sedimentary rock found in the Tri-Cities Area east of the Hayward Fault Zone.

Earthquake. Perceptible trembling to violent shaking of the ground, produced by sudden displacement of rocks below and/or at the earth's surface.

Erosion. The wearing away of land by running water, wind, ice, or other agents.

Fault. An earth fracture or zone of fracture along which the rocks on one side have been displaced in relation to those of the other.

Fault Zone. A fault instead of being a single clean fracture, may be a zone hundreds or thousands of feet wide; the fault zone consists of numerous interlacing small faults.

Ground Failure. A situation in which the ground does not hold together such as in landsliding, mud flows, liquefaction and the like.

Ground Response. The reaction of the ground to earthquake shaking.

Landsliding. The perceptible downward sliding or falling of a relatively dry mass of earth, rock, or mixture of the two. Often loosely used to also include sliding of wet earth masses such as mudslides and earthflows.

Liquefaction. A process by which a water saturated sand lens loses coherence when shaken. Involved is the collapse of sand grains into intergranular voids which induces an increase in pore pressure and a loss of strength.

Sedimentary rocks. Rocks formed by the accumulation of sedimentation in water from air.

Seiche. A periodic oscillation of a body of water.

Topography. The physical features of the land, especially its relief and contour.

Tsunami. A great sea wave produced by submarine earthquake or volcanic activity.

Watershed. An area that drains to a particular watercourse or body of water.

ADDENDUM 2

EL SOBRANTE GEOTECHNICAL STUDY

Map Preparation

A topographic base map for the El Sobrante Valley was prepared by Ackland International, Inc. using the existing U. S. Geological Survey 7.5 minute quadrangle maps. The maps covering the area are the Richmond and Briones Valley quadrangles which are at an original scale of 1:24,000 or 1 inch to 2000 feet (USGS, 1959; photorevised 1980). These maps were spliced together and photographically enlarged to generate a base map for the area at a scale of about 1:7200 or approximately 1 inch to 600 feet, corresponding to the scale of the existing Contra Costa County parcel base maps. These maps were each separated into six smaller maps in order to provide 8½ inch x 11 inch reproducible maps for the oversize figures. These maps, found in the Open Space and Conservation Element, Volume 1 of the Richmond General Plan, are at a scale of 1 inch to 1000 feet and are labeled as Figures OSC-1 (a-f), and Figures OSC-2 (a-f), respectively, according to the key indicated on each sheet.

The Topographic Constraints Map presented as Figure OSC-1 (a-f) was generally developed through direct analysis of the topographic information provided on the base map. Slope variations and prominent ridges and spurs were considered to be the main areas of interest.

The El Sobrante Valley was divided into four slope categories based on percent slope measured vertically to horizontally: 0% to 15% ("Gentle"), 15% to 30% ("Moderate"), 30% to 50% ("Moderately Steep"), and over 50% ("Steep"). The slope information is intended to serve as a planning aid and is a key to the policies in the General Plan recommendations. The mapping of the slope variations is limited by the accuracy of the original source topography and does not identify localized areas of slope changes such as steep banks along stream channels or where previous grading and natural processes may have altered the landscape.

The locations of prominent ridges and spurs were generally plotted down to the 300 foot elevation contour wherever possible. Since these areas are most likely underlain by more competent and stable bedrock units that are least susceptible to erosion and mass wasting processes, they are typically located between drainage swales and possible landslide areas. Therefore, no ridges or spurs were plotted within the areas of possible or confirmed landslide activity discussed below.

Landslides

Landsliding was determined to be the most significant primary geologic hazard in the study area and was the focus of the study. Earthquake shaking and faulting were also considered to be primary hazards but of less significance than sliding. Expansive soils as well as soil creep on hillsides were considered pervasive hazards within the area, typically requiring site specific evaluation on a case by case basis.

The setting of the area with respect to regional fault zones would suggest that ground shaking is also a significant geologic hazard for the general area, although not a conveniently mappable geologic condition. Soil liquefaction was not considered to be of primary importance in the area due to the clay soils common throughout the region. We should note that the CDMG has mapped the bottom of the El Sobrante Valley as an area where the potential for liquefaction is present (Bishop et al., 1973). However, this mapping is preliminary in nature and the reports obtained during the study for this portion of the area typically indicated that the alluvium generally consists of predominantly clayey materials. Nonetheless, the potential for soil liquefaction should also be evaluated by site specific investigation on a case by case basis, particularly along stream channels and on the valley floor, as discussed in the policy recommendations.

Landslides within the area were classified as either "confirmed" or "possible" landslide areas based on the reliability of the particular data source. The landslides labeled on Figures OSC-2 (a-f) as "Confirmed Landslide Areas" were generally mapped from previous consultants' reports for the area obtained during this investigation. These studies typically included a detailed surface reconnaissance and a subsurface exploration program so that the landslide areas could be reliably confirmed. The mapped locations of these features were taken directly from the maps and figures contained in these reports. In addition, the East Bay Regional Park District mapping was used extensively as a basis for locating confirmed landslides in areas on or adjacent to Park District lands, where relatively few reports have been prepared by other consultants. Due to the more intensive effort undertaken for this mapping, it was considered to be more reliable than other surface reconnaissance level studies and was largely supported by our review of the aerial photography noted below.

The mapping of the CDMG (Bishop et al., 1973) was used as a basis for the "Possible Landslide Areas" indicated on Figures OSC-2 (a-f). In addition, the preliminary photo-interpretive landslide mapping of the USGS (Nilsen, 1975) was also used as a basis for these landslides north of San Pablo Dam Road, where less rigorous mapping was done by the CDMG. The "Possible Landslide Areas"

mapped on Figures OSC-2 (a-f) from each of these sources were generally confirmed by examination of stereo pairs of aerial photography taken in 1946 and 1957 at scales of 1:23,600 and 1:12,000, respectively.

Faults

No active faults are present within the study area according to the mapping of the CDMG, although the active Hayward Fault is located adjacent to the study area, as shown on Figures OSC-2 (a-f) (CDMG, 1982). The boundaries of the Special Studies Zone for this fault are also indicated on Figures OSC-1 and OSC-2 (a-f). Since sites within this zone are subject to the requirements of the Alquist-Priolo Act of 1974, and are outside the study area, no additional policies for the El Sobrante Valley are necessary.

The faults shown on Figure OSC-2 (a-f) within the study area are considered to be inactive, bedrock faults that have a low likelihood for generating earthquakes or experiencing fault offsets according to the CDMG. However, these areas may represent geologic anomalies that could contribute to slope instability or other problems and should be evaluated by site specific studies on a case by case basis, as discussed in the policy recommendations. The mapped fault locations were compiled from the published geologic maps (Bishop et al, 1973; Dibblee, 1980) and the doctoral thesis mapping of Wagner (Wagner, 1978). These locations should not be considered as reliable as the locations of the landslide areas due to the lack of field data, the varied sources, and the inability to positively identify these features by examination of aerial photography.

As noted earlier, the area is located very close to the active north segment of the Hayward fault. Further, the San Andreas fault passes approximately 22 to 25 miles west of the El Sobrante Valley, and the Concord fault passes approximately 12 to 15 miles east of the study area (Jennings, 1975). In addition, the Working Group on California Earthquake Probabilities (USGS, 1990) has estimated that there is a 28 percent chance of a large earthquake (approximate magnitude 7.0) occurring on the north segment of the Hayward fault by the year 2020. They also estimate a 67 percent probability of a large earthquake occurring somewhere in the San Francisco Bay Region by the year 2020. Hence, as is the rest of the San Francisco Bay Area, the El Sobrante Valley is in a region having high seismic activity. On the basis of current technology as well as historical evidence, it is reasonable to assume that sites within the study area will be subjected to at least one moderate to severe earthquake that will cause strong ground shaking. However, during such an earthquake, the danger from fault offset within the area is remote.

Consultants' Recommendations - General

For background, this section includes the consultants' recommendations; for City policy see Volume 1 of the Richmond General Plan. Based on the results of this preliminary investigation, it is the consultants' opinion that development could safely proceed on most sites within the area, provided that any geologic hazards which may be present on each site are effectively mitigated. However, the soil and geologic problems inherent to this region may result in problems when the land is subjected to certain types or levels of intensity of development. Consequently, the constraints on development imposed by the natural conditions must either be avoided or mitigated to acceptable levels of risk. As a matter of policy, detailed geotechnical and/or geologic investigations should be performed for most sites within the area prior to development, to help evaluate these risks and to provide recommendations for any appropriate remedial measures.

Landsliding and earthquake shaking are the most significant geologic hazards that must be considered prior to development within the El Sobrante area, although other constraints such as soil creep on hillsides and expansive soils must also be addressed. Seismic shaking is usually mitigated by properly designed structural systems so no further discussion is given here. Landsliding is typically mitigated by grading or other techniques depending on the available financial resources and the extent of either the landslide problem or the required remedial measures. In consideration of the complex and sensitive nature of some of the landslide areas within the area, it may be difficult to implement effective remedial measures without involving adjacent properties, requiring cooperation, grading and access easements, etc. Therefore, economic feasibility or a lack of adequate control may preclude some properties in the area from development. The amount of site disruption and the environmental impacts of any required remedial measures should also be considered during review of the development proposal.

The consultants recommend that the information developed by the study be used in both the preparation and the review of geotechnical and geologic investigations performed for proposed development within the study area. Their report was issued with the understanding that it is the responsibility of the City of Richmond, or any other governing agency using the study with permission from the City of Richmond, to ensure that the information and recommendations contained in the report are called to the attention of all concerned parties and appropriately incorporated into the development process.

Construction Requirements. A geotechnical investigation prepared by a registered civil engineer is typically required for the

construction of residential structures, roadways, retaining walls and other structures proposed for hillside properties or in areas where soil problems, such as expansive soils, are known to exist. A geologic investigation performed by an engineering geologist is also typically required for large grading projects, subdivisions, complex geologic environments, and for sites in close proximity to known faults. Many times, these studies are performed simultaneously and only a single report is issued.

The actual scope of work performed and the level of effort employed for a given scope item is dependent on the nature of the project, the complexity of the geologic environment, governmental regulations, and the discretion of the consultant. As a minimum, each geotechnical report should provide recommendations for site grading, building or wall foundations, and surface and subsurface drainage. Typical minimum foundation and grading requirements are generally presented in Chapters 29 and 70 of the Uniform Building Code (UBC), respectively, as well as in the City of Richmond and the Contra Costa County Grading Ordinances. For more complex environments and landslide areas, special subsurface exploration techniques and more detailed information may also be required, as discussed below.

Foundations. Drilled pier and grade beam foundations (referred to as "uncased cast-in-place concrete piles" in the UBC) are the most commonly used foundation type for hillside structures in this area in order to bypass the effects of soil creep. This type of foundation system is also commonly used on level sites where either a variable depth of fill or expansive soils are present. Post-tensioned concrete slabs and deep footing foundations are also used in expansive soil environments. Footing foundations are appropriate for level sites with non-expansive soils and where cuts have exposed competent bedrock on level building pads or benches.

Landslide repair. Typical landslide repair techniques depend on removing, buttressing or in-situ stabilization of the potentially unstable materials. In order to properly design these features, an accurate understanding of the geologic conditions is necessary. Therefore, a more thorough investigation than what would normally be done for a site that does not contain landslide deposits is usually warranted, and consultation with an engineering geologist may also be required. Detailed surface mapping, examination of historic aerial photographs, more extensive subsurface exploration (such as downhole logging of large diameter exploratory borings or continuous sampling with plastic liners), and peak and residual strength laboratory testing may all be required for this case. In addition, detailed slope stability calculations may be needed, including back calculation of residual soil strengths for materials along the assumed or known failure surface, along with the preparation of detailed remedial work recommendations and plans.

Technical review of design plans is typically required by the geotechnical consultant in order to ensure that the appropriate geotechnical recommendations have been incorporated into the drawings. In addition, the observation and testing of the geotechnical aspects of the construction is also typically required to ensure that the geotechnical aspects of the work are properly carried out during the construction. These requirements are particularly important for the design and construction of landslide remedial work. An engineering geologist should also be employed to perform geologic mapping of the exposed conditions during major landslide repair operations.

Intent of Study. The intent of the study was to provide an outline of the recommended requirements for geotechnical investigations based on the given site conditions indicated on the accompanying maps. These maps identify four primary geologic or topographic constraints or features present within the study area; two of which are critical (landslides and slopes), and two are less critical (bedrock faults and ridges and spurs). Due to the inherently stable geology typically underlying ridges and spurs, no special requirements are given in this report for these areas.

Table OSC-1 in the OS&C Element, Volume 1 of the Richmond General Plan, presents an outline of recommendations for an appropriate scope of work for the geotechnical investigations required for proposed developments within the area. These recommendations are based on the percent slope of the original ground surface, as indicated on Figures OSC-1 (a-f) and the presence of landslides, as indicated on Figures OSC-2 (a-f).

As a note, the slopes measured on Figures OSC-1 (a-f) approximate the ground surface present at the time the USGS base map was generated and do not necessarily reflect the natural or actual slopes at a given site due to possible previous grading or map inaccuracies. In addition, the landslides shown on Figures OSC-2 (a-f) were plotted from various sources and do not necessarily reflect those areas that have been repaired. Further, although an attempt was made to include all known landslides within the El Sobrante Valley, it does follow that landslides could be present at other locations than those indicated on the map(s) and that a landslide could not be present at each indicated location. Finally, we should point out that the recommendations in the following table do not differentiate between "Confirmed" or "Possible" landslide areas since the required level of investigation would not differ substantially for the two categories. These recommendations are preliminary in nature and

are intended only to serve as a planning aid; substantial variations may be warranted.

Table OSC-1 outlines special geotechnical considerations that could be significant considerations for development on a given site; some of these considerations are a major issue regardless of site conditions and some may represent the most critical geotechnical issue for a particular site. A brief discussion of each of these considerations is presented in the following paragraphs.

Drainage. Good surface and subsurface drainage measures are fundamental requirements for all hillside developments in this area. In addition, due to the presence of expansive soils, these drainage requirements should also be extended to developments on more level terrain where expansive soils may be a critical issue, as discussed below. Frequently, inadequate drainage and/or excessive landscape irrigation may be the primary causes of soil or ground movement problems. Therefore, in order to minimize the likelihood of these problems, we recommend that each geotechnical investigation include comprehensive drainage recommendations. In addition, it should be required that these recommendations are properly implemented in the design and construction of a project for the proper performance of structures and surface improvements. A final surface drainage inspection by a qualified consultant should also be required before a final building permit inspection is granted.

Access Routes. In many cases, the most critical geotechnical constraints for the development of a given site may occur along access ways (like long driveways or utility alignments) rather than the actual building area, particularly on steep sites and in landslide areas. Therefore, the required geotechnical investigation should also address proposed access ways and identify the constraints within these areas. More detailed geotechnical studies may be warranted on the basis of the access constraints, which may be the controlling site conditions that determine the required level of geotechnical investigation, as outlined on Table OSC-1 (See Volume 1 of RGP).

Cut and Fill. The presence of unengineered fill, previously engineered fill, steep cut slopes, or graded roadways may result in substantial modifications to the scope of the required geotechnical investigation. These conditions may also control the level of study needed since the requirements presented on Table OSC-1 are based on natural slopes and the ground conditions present at the time the base map was prepared. If it is determined or suspected that previous grading has occurred on a given site, then the consultant should review City and County records for any relevant information or appropriate engineering documentation. Where no documentation exists, then detailed subsurface studies of any fill materials must be performed before the fill can be determined to be adequate and suitable for incorporation into a new project.

Expansive Soils. As noted previously, expansive soils are a pervasive soil problem in this area; this condition must typically be addressed on all sites. Although expansive soils may be absent on some sites on steeper slopes, the required geotechnical study should still investigate the possible presence of expansive materials in all areas. The soil report should include appropriate geotechnical recommendations for building foundations, retaining walls, surface and subsurface drainage, and slabs-on-grade in order to help to minimize the problems associated with volume changes (shrinking and swelling) of these materials.

Soil Creep. The soils in this area tend to lose strength when saturated and, when located on sloping terrain, will have a tendency to move downslope in response to gravitational forces. As noted previously, this problem is pervasive in all hillside areas in this region, especially where expansive soils are also present. Therefore, the required geotechnical study should investigate for the presence of materials susceptible to creep for all sites on sloping ground. The soil report should include appropriate geotechnical recommendations for building foundations and retaining walls as well as surface and subsurface drainage measures in order to help to minimize problems associated with soil creep.

Swales and Ravines. Swale areas tend to be locations where weak soils accumulate to greater depths and where drainage is a primary consideration. The flanks of drainage swales may also be subject to more frequent landslide activity due to the inherently weaker bedrock materials often found in these areas.

Ravines and the mouths of ravine areas are also subject to the same considerations, although the steeper slopes within ravines may be indicative of more stable geology. However, ravine areas and especially sites at the mouths of ravines should be investigated for possible landslide or debris flow activity upslope that could threaten any proposed development at these locations. These factors should be considered during any required geotechnical investigation for sites where these conditions are present.

Subsurface Water. The presence of possible subsurface water sources should always be investigated on hillside sites and especially in landslide areas. Seeps and springs may also be an indication of geologic anomalies and can cause severe problems if not given proper consideration during the development of a site. If these features are identified or suspected to be present on a site, then appropriate drainage recommendations should be provided in the required geotechnical investigation to address these conditions.

Streams and Stream Banks. In addition to the obvious drainage concerns that should be addressed when a stream channel is present

on a site, consideration should also be given to the stability of the stream banks and the possible presence of soils susceptible to liquefaction during earthquakes. Typically, the banks of stream channels have been over-steepened and may be unstable at these inclinations. Therefore, structures should be setback from the top of the stream bank and/or the stream banks may require remedial stabilization measures. Areas near stream channels sometimes are locations where more granular alluvium has been deposited and these materials may be the most potentially susceptible soils in this area to experience liquefaction during strong earthquake shaking. Consequently, the required geotechnical investigation should adequately address the issues of stream bank stability and potential soil liquefaction whenever a stream channel or former stream channel has been identified or suspected on a given site.

Sites Adjacent to Landslide Areas. Although a given site may be outside the limits of the landslide areas indicated on Figure OSC-2 (a-f), there still may be landslide hazards in the vicinity that could adversely affect the property. The required geotechnical study should consider the possible presence of landslide areas immediately adjacent to a site. Landslides upslope of the site could move downslope and impact structures or property, especially at the mouths of ravines where debris flows have occurred. In addition, landslides downslope or adjacent to the site could create problems if migration of head scarps or lateral scarps encroach upon the property. A more detailed soil report than what is indicated on Table OSC-1, as well as a geologic study, may be required to address the relative landslide hazard for sites in this condition.

Steep Slopes. As stated previously, the slope areas indicated on Figure OSC-1 (a-f) do not necessarily reflect localized variations or changes in the ground surface contours due to construction activity or natural processes. Therefore, steep slopes may be present on a site that require more detailed studies than what is indicated on Table OSC-1. In addition, appropriate setbacks and foundation embedments may be required as outlined in Chapter 29 of the Uniform Building Code.

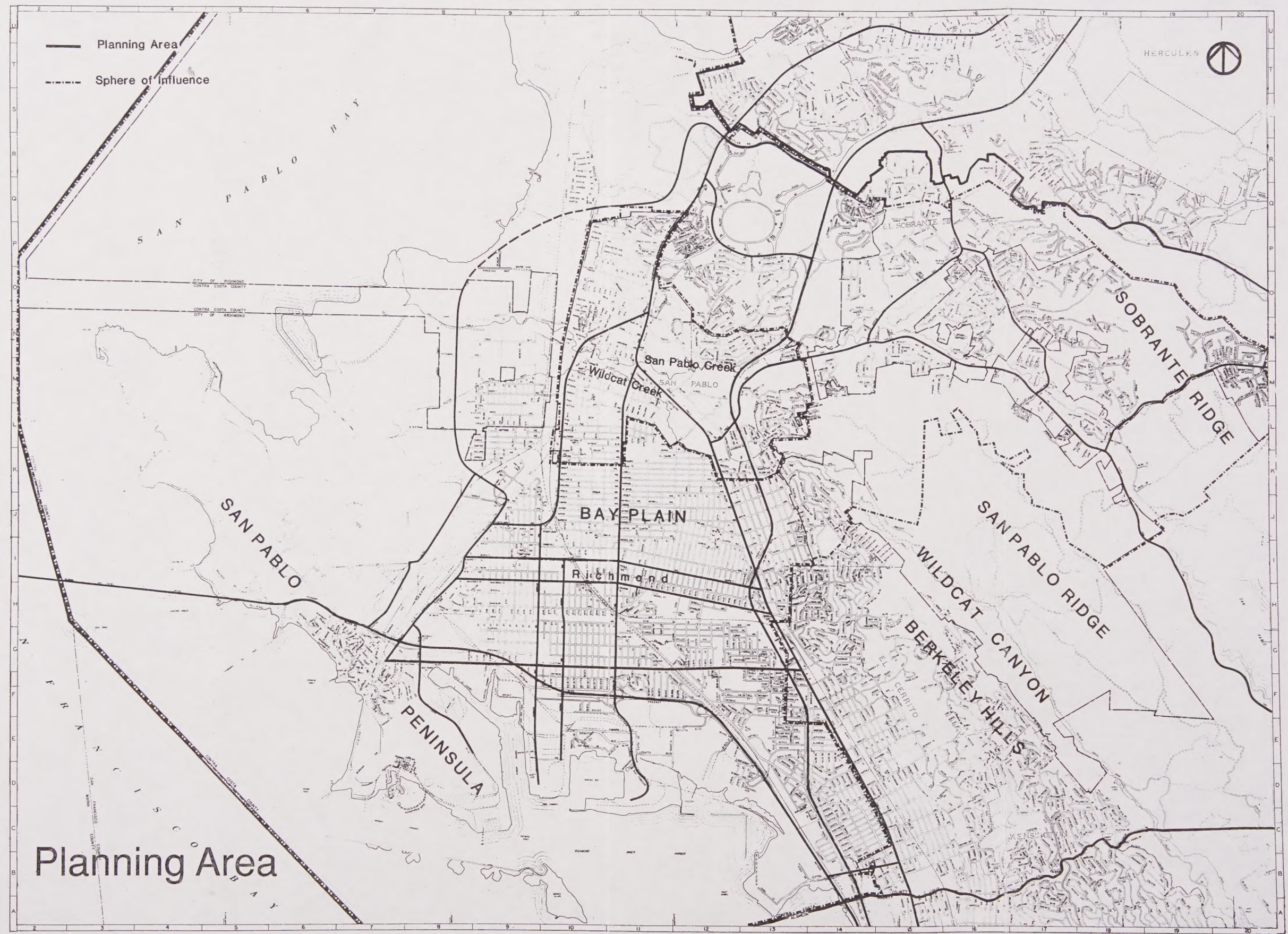


Figure B - 1

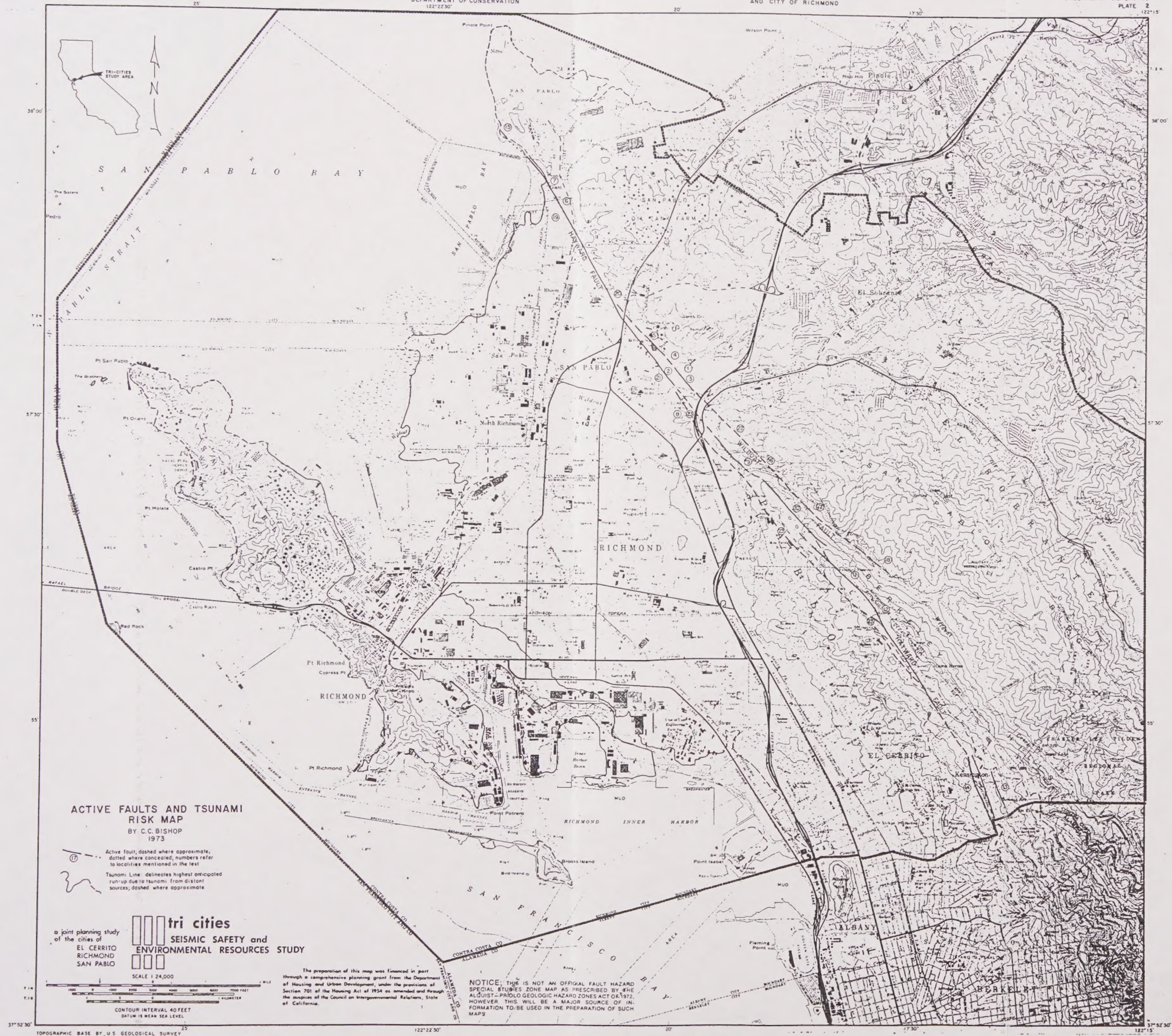


Figure B - 3

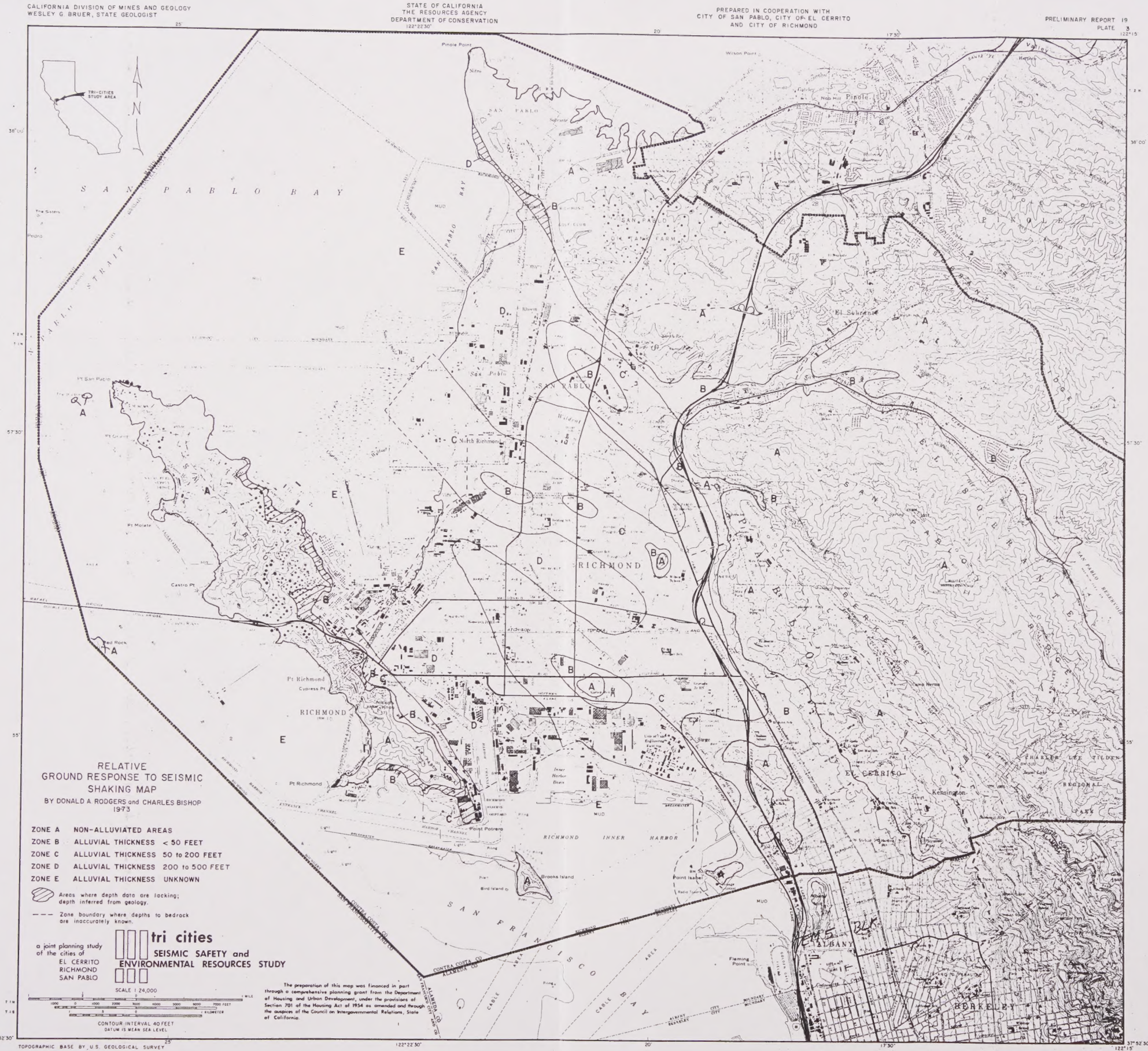


Figure B - 4

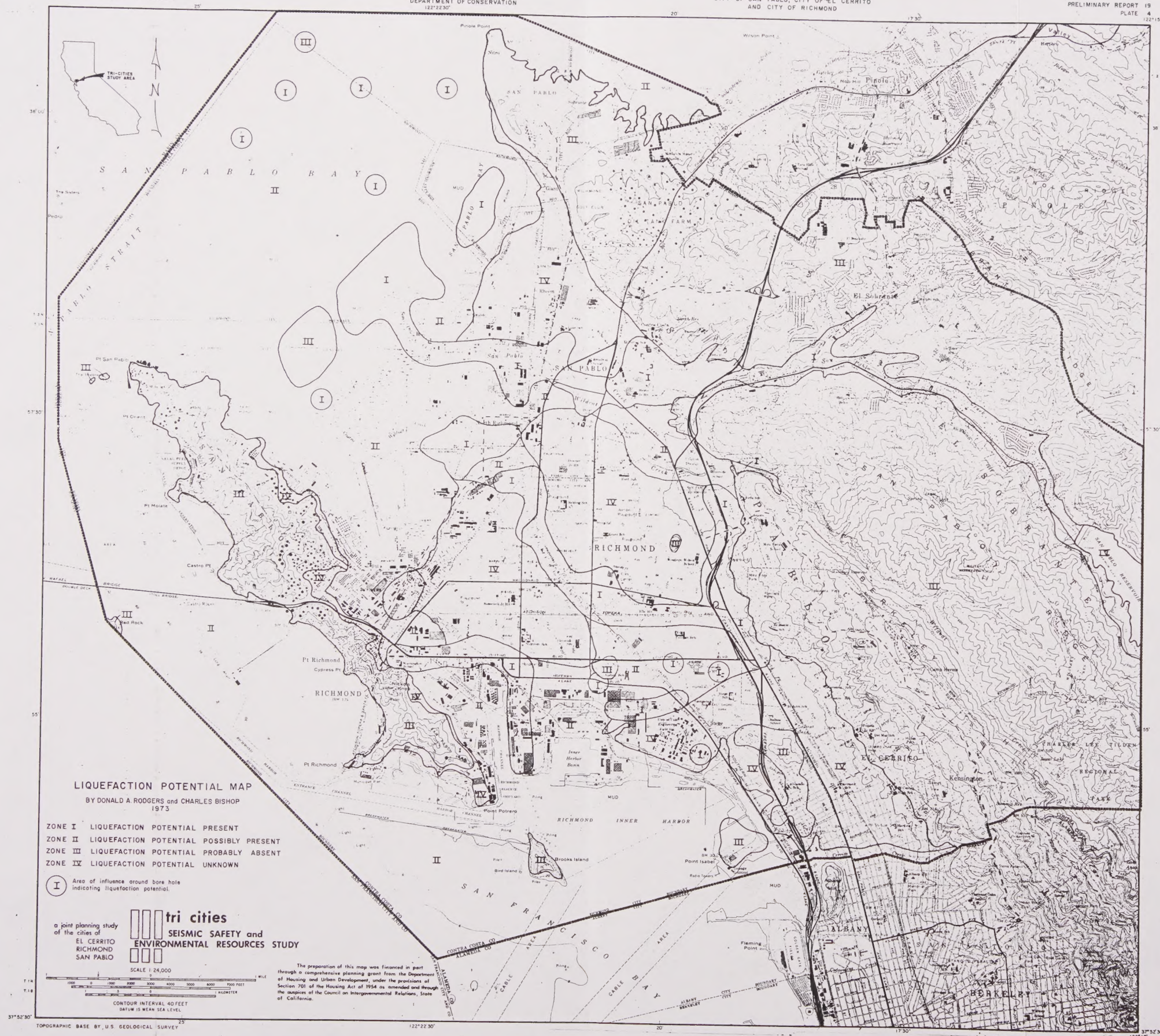


Figure B - 5



Figure B - 8

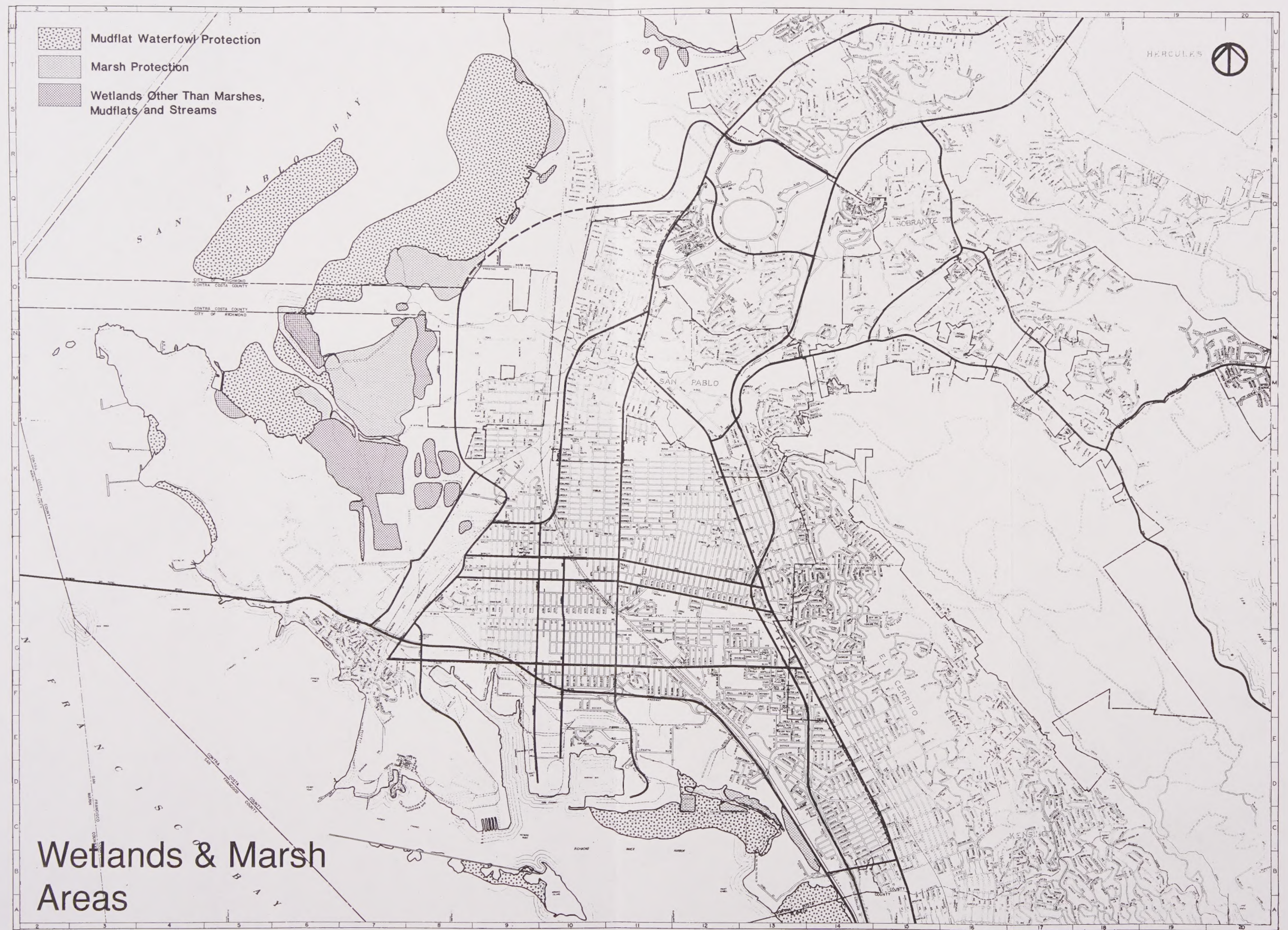


Figure B - 9

SECTION C

SURVEY OF THE BUILT ENVIRONMENT

This section summarizes pertinent aspects of the built environment in the Planning Area. Included are discussions of visual character, archaeologic and historic resources, electromagnetic fields, hazardous waste management, and noise sources.

Existing Visual Forms

Topographic features, including an extensive waterfront, a broad plain and several ridges and valleys, are the most vivid visual elements in the Richmond Planning Area. Most elements developed by man do not approach the magnitude and variety created by nature. Topography forms every major and several minor edges or transitional boundaries. Although the Marin Hills are across the Bay they still loom up as the principal backdrop to the West -- even the Potrero Hills Ridge is diminished in importance except when observed close at hand. The Berkeley Hills, San Pablo Ridge, Pinole Ridge, and Sobrante Ridge form a background to the east for the Planning Area's stage setting. Brooks Island forms a prominent landmark to the south with San Francisco as a backdrop.

Though natural elements form the strongest visual forms, there are several significant man-made landmarks within the Planning Area. These landmarks include the industrial stacks of the Chevron Refinery, the Social Security Building in the City Center, the Civic Center Complex, and Hilltop Mall.

Three significant travelways pass through the entire Planning Area. Interstate 80 carries the heaviest amount of through-traffic in a general north-south direction. The I-580 Freeway passes through in a west-south direction. San Pablo Avenue traverses north-south through Richmond from Pinole to El Cerrito. Though there are several other major travelways (i.e., Macdonald Avenue, Barrett Avenue, 23rd Street and San Pablo Dam Road), these roads traverse only portions of the Richmond Planning Area.

Most nodes are nondescript intersections and/or shopping centers. The five exceptions to this statement are the Hilltop Shopping Center, Montgomery Wards, Point Richmond, Marina Bay, Contra Costa College, and the El Cerrito and El Portal Plazas, all of which have a degree of vitality not found at other nodes.

The major employment and residential areas form Districts within the Richmond Planning Area. In almost every instance, except for Marina Bay, they are loosely linked together by the travelways.

Inventory of Visual Features

Views from I-580. As currently designed, I-580 affords the driver elevated views of Richmond in two of its segments: as one enters

the City from Albany and as one passes through the saddle between the San Pablo and Potrero Hills. The southern approach quickly returns to grade before the first exit, Central Avenue, whereas the western approach remains elevated until it crosses Canal Boulevard. Between these segments the freeway is partially below grade and edged with berms and/or landscaping.

A driver approaching from the south will enter Richmond after having experienced the I-80/Buchanan Street/I-580 interchange and its competing visual attractions: the Albany Hill with its high rise apartments and the Albany mudflats. A brief panorama of the southern shoreline, especially Point Isabel, emerges prior to the Central Avenue overpass. The view is then dominated by the blue Mail Facility with the Hoffman Marsh in the foreground. The low residential hills of Richmond Annex close the view to the right, while ahead one focuses on the trees of the U.C. Field Station on the left and the Bayview on and off-ramps to the right.

Approaching these trees, one will pass under the Bayview overpass with the low-rise ICI America's buildings emerging on the left. The Southern Pacific tracks are dominant in the right foreground until you reach the sound wall. The State's landscaping budget for the freeway is not sufficient for screening devices such as tightly spaced trees or large shrubbery.

From this point to Canal Boulevard, the view from I-580 has three consistent components: the industrial view to the south, the mixed residential and commercial views to the north, and the sequence of exits and overpasses.

The visual experience of the western exit from Richmond is generally positive in its combination of Point Richmond in the south, the refinery and its tank farms in the north, and the anticipation of crossing the saddle onto the bridge. Dominant man-made features include Chevron's Research Center and a large tank emblazoned with the company logo. The driver then comes upon the water views from the bridge, Red Rock, glimpses of the shoreline, and Mt. Tamalpais, Marin County and San Quentin ahead.

The eastern path from the bridge into Richmond is generally a reverse experience to that described above, with two notable exceptions. The overview of the port and south shoreline area from the freeway will be especially dominant after passing the research center, and the East Bay Hills form a constant backdrop throughout the eastbound experience.

Views from the Richmond Parkway. The visual experience along the proposed Parkway is more difficult to assess for the reason that it follows no existing routes except along Castro Street, Garrard Boulevard, and portions of the former Atlas Road. However, through knowledge of existing land uses, buildings and environmental

conditions, and topographic relationships, the following experience can be presented.

Travelling west and south from the Parkway interchange with I-80, a driver's view will be dominated by panoramic vistas and glimpses of San Pablo Bay and the vegetated Point Pinole. The Hilltop development will also dominate, depending on its landscaping and the character and visibility of its architecture.

Passing San Pablo Avenue and assuming an "S"-shaped alignment, one may be aware of the large structure of Marvais Steel with Point Pinole as a backdrop, followed by a view of Mount Tamalpais and a panoramic view encompassing Richmond's shoreline, its coastal hills, the Chevron Refinery, the City and San Francisco Bay and skyline beyond. The driver will then go down the hill to the flatlands.

Foreground views will be dominant along the Parkway from Giant Road to I-580. Typical of the foreground views will be open lands, sporadic industry, greenhouses and the residential areas of Parchester and North Richmond. Occasional long range views will occur, such as water and shoreline panoramas at the Southern Pacific tracks, a focal view of Mount Tamalpais near Parr Boulevard, and peripheral views of the San Pablo Hills on the right as one approaches Castro Street.

Views from Western Drive. Most of the entire length of Western Drive from I-580 to Point San Pablo affords the viewer panoramic vistas of San Pablo Bay, Marin hills, and San Francisco Bay, as well as such foreground features as Red Rock, Richmond/San Rafael Bridge, and the Brothers Islands. The most captivating vistas occur from the hilltop above Point San Pablo (a 360 degree panorama) and from Point Molate (a 180 degree south-westerly panorama).

Views from San Pablo Dam Road. Starting at I-80, the views from San Pablo Dam Road include large lot commercial uses with occasional glimpses of I-80. Between the intersections of El Portal Drive and Appian Way, the commercial strips on both sides of the roadway dominate the view. Continuing easterly, the area becomes residential in character with a large number of apartment complexes and some single-family dwellings. As one continues further along the road, single-family dwellings become the predominant use interspersed with multiple-family dwellings and pasture lands. The single-family homes along the Sobrante Hills and the open space areas of the San Pablo Hills and Ridge become frequently more visible. As one reaches the outer edge of the El Sobrante Area, the view is filled with Kennedy Grove and the other lands of EBRPD and EBMUD.

Other Mobile Views. Other visual aspects of moving through or near the Planning Area include a panoramic view from I-80 of the north shoreline area and San Pablo Bay, occurring immediately north of the proposed Parkway/I-80 interchange; a strong panorama of the entire city and beyond when travelling south on San Pablo Avenue near Hilltop Drive; two panoramic views from BART north of the El Cerrito del Norte Station and south of the Richmond Station.

On city streets, particularly Cutting Boulevard, west bound traffic is consistently aware of the refinery, tank farms, and the San Pablo Hills, all dominated by views on clear days of Mount Tamalpais. The Marin County peak is as visually dominant to Richmond residents as Mount Diablo is to residents of central Contra Costa County.

Stationary Vistas. A number of stationary vistas have been described graphically in Figure C-1 at the end of Section C. The letter designations associated with these vistas correspond to the following objects:

- | | |
|----------------------------|----------------------------|
| A. Mount Tamalpais | G. Potrero-San Pablo Hills |
| B. San Francisco Bay | H. North Shoreline Area |
| C. San Francisco Shoreline | I. East Bay Hills |
| D. San Pablo Bay | J. Albany Hill |
| E. South Shoreline Area | K. Brooks Island |
| F. West Shoreline Area | |

ARCHAEOLOGICAL AND HISTORIC RESOURCES

In the 1770s, the Richmond area underwent a cultural change from being the gathering center for the aboriginal Indian peoples who called themselves "Huchium" to an area settled by Spanish pioneers. By 1850, the first U.S. Indian agent in the area reported that almost the entire coastal Indian population had passed away: "scarcely an individual is left."

What remains of the physical artifacts of pre-European cultures is found in a number of archaeological sites in and near the shoreline and creeks. These sites, many of which have been surveyed since 1900, are generally clustered along creeks, near marshlands, or in the bayside coves. Because of their sensitivity to theft or other unauthorized digging, these sites should not be described in a public document.

A pattern of archaeological sensitivity is identified by surveys on file with the City. Many of the midden findings, which have been made within the sensitivity zones, date to as early as 100 B.C. They often include shells, jewelry, artifacts, and human bones; all of which indicate the presence of tribes in residence or gathering places for nomadic peoples. Two archaeological areas within Richmond's shoreline have been determined eligible for listing in

the National Register of Historic Places: (1) the Stege Mounds Archaeological District and (2) the Lower San Pablo Creek Archaeological District. It is customary that sites under development and within a known archaeologically sensitive area be monitored during excavation.

A significant number of more contemporary historical resources also exist in the Planning Area. Five historic sites in Richmond are listed in the National Register of Historic Places (see Figure C-2): (1) Alvarado Park; (2) East Brother Island Light Station; (3) Ford Motor Company Assembly Plant; (4) Point Richmond Historic District; and (5) Winehaven. Three other historic sites have been determined eligible for listing in the National Register: (1) Carquinez Hotel (Hotel Don)); (2) Ellis Landing Site; and (3) Richmond Shipyard No. 3. These three National Register eligible sites are also shown on Figure C-2.

Additional resources of historic interest are included in a Preliminary Historic Resources Inventory prepared by Contra Costa County in 1976.

ELECTROMAGNETIC FIELDS

Electromagnetic fields are generated whenever electricity is being conducted. Recent studies have indicated that electromagnetic fields (EMF), such as those generated by transmission lines, may have adverse impacts on human health. The data to date, however, is inconclusive. Past and on-going studies investigating the linkage between EMF exposure and cancer in humans have focused on childhood leukemia (Wentheimer et al., 1979; Savitz et al., 1988). These studies have indicated a positive statistical association between childhood leukemia and proximity to electrical distribution lines which generate EMF. A casual relationship has not been established.

In 1991, the California Legislature enacted SB 920 which requires the Public Utilities Commission (PUC) and the California Environmental Protection Agency (Cal EPA) to jointly conduct high priority research to identify and mitigate health risks that may be associated with EMF. This legislation also directs the PUC to implement an interim policy of "prudent avoidance" of exposure to EMF generated by electrical transmission lines. "Prudent avoidance" is a strategy which recommends measures to be taken to reduce EMF exposure, when they are feasible and would not cause economic hardship.

Because of its concern about the health and safety aspects relating to electromagnetic fields, the California Department of Education, School Facilities Planning Division maintain setback standards for locating school sites near high voltage power transmission lines.

These setback standards are in the 1989 "School Site Selection and Approval Guide" published by the State.

HAZARDOUS WASTE MANAGEMENT

Tanner Bill, AB 2948

In 1983, the County Board of Supervisors created a Hazardous Waste Task Force to develop policies and recommendations to guide hazardous waste management in Contra Costa County. In 1986 Assembly Bill 2948 was enacted, which authorized counties to prepare hazardous waste management plans. Each county in California elected to prepare a hazardous waste management plan for all hazardous waste produced within their county. The ground work already completed by the county task force fell easily into the provisions of this bill.

In February 1990, the State approved Contra Costa County's Hazardous Waste Management Plan. Once approved, each city had 180 days to do one of the following:

- (1) Adopt a City Hazardous Waste Management Plan containing specified elements consistent with the approved County Hazardous Waste Management Plan.
- (2) Incorporate the applicable portions of the approved Plan, by reference, into the City's General Plan.
- (3) Enact an ordinance which requires that all applicable zoning, subdivision, conditional use permits, and variance decisions are consistent with the specified portions of the plan.

The City chose to adopt its own hazardous waste management plan as part of the General Plan. This plan appears as an Appendix to the Safety Element (See Volume I of the Richmond General Plan.)

Hazardous Waste Generation

Hazardous waste generation within Contra Costa County is one of the largest in California. Richmond, as the largest City in West Contra Costa County and one of the most heavily industrialized cities in the region, has a key interest in this problem. The problem extends far beyond the City limits and is being studied at the county, regional, state and federal levels. A workable solution is not easy to identify.

An indepth discussion of the magnitude of the problem can be found in the Final County Hazardous Waste Management Plan. A brief synopsis points out that in 1986, 266,371 tons of hazardous waste were generated. An additional 166,218 tons were transferred off-site for treatment/disposal. Almost all of the off-site hazardous waste generated in the County is sent out of the County for disposal. Table C-1 shows Richmond's share of the waste.

Another source of hazardous material is from contaminated sites. These sites range from the Federal Superfund sites (Table C-2) to underground tank sites. It is estimated that there are 60 underground storage tanks requiring soil removal in Contra Costa County. Data indicates an average of 35 tons of waste removed for each leaking tank or a projection of 2,100 tons of waste to be removed and cleaned. This added to the estimated 2,729,300 - 2,771,300 tons of Superfund cleanup material sets the stage for a challenge in hazardous waste management.

TABLE C-1
FACILITIES WHICH TREATED OR DISPOSED OF HAZARDOUS WASTE
ON-SITE IN 1986

<u>COMPANY</u>	<u>WASTE GROUP</u>	<u>QUANTITY (TONS/1986)</u>
CHEVRON CHEMICAL CO. ORTHO DIVISION -CAD04327486	HALOGENATED SOLVENTS	11,584
	ORGANIC LIQUIDS	58,467
	PESTICIDES	4,381
	TOTAL	74,429
CHEVRON USA -CAD009114919	WASTE OIL	764
	ORGANIC LIQUIDS	210
	OILY SLUDGES	4,227
	NON-HALOGENATED ORGANIC SLUDGES AND SOLIDS	770
	NON-METALLIC INORGANIC LIQUIDS	432
	CONTAMINATED SOIL	5,184
	MISC. WASTES	7,262
	TOTAL	18,849
WITCO CORP, ARGUS DIV. -CAD009137779	NON-METALIC INORGANIC LIQUID	51,146
		51,146

TOTAL RICHMOND, 1986,	
HAZARDOUS WASTE TREATED/DISPOSED ON SITE	144,424 TONS
TOTAL CONTRA COSTA COUNTY, 1986,	
HAZARDOUS WASTE TREATED/DISPOSED ON SITE	266,371 TONS
RICHMOND PERCENTAGE OF TOTAL	54.2%

TABLE C-2
RICHMOND CALIFORNIA SUPERFUND SITES

SITE NAME	PRINCIPAL CONTAMINANTS	ESTIMATE ON-SITE TONS	ESTIMATE TONS FOR OFF-SITE DISPOSAL	COMMENTS
BURMAH-CASTROL (BRAY OIL)	OIL, SOLVENTS IN SOIL, GROUNDWATER	----	----	CLEANUP COMPLETE
COOPER CHEMICAL	HEAVY METALS, EXTRACTABLE AND VOLATILE ORGANICS IN SOIL, GROUNDWATER	4,000	----	HALF OF SITE REMEDIATED; REMAINDER HAS BEEN CHARACTERIZED
DREW SALES	LEAD, ZINC COPPER, NICKEL IN SOIL	2,000	0	CONTAMINATED SOILS WILL PROBABLY BE CONSOLIDATED ON-SITE AND CAPPED.
FASS METALS	PCB'S IN SOIL	200	200	SITE CHARACTERIZED. REMEDIATION PARTIALLY COMPLETE
FMC CORP.	PESTICIDES IN SOIL	1,000	1,000	21,000 TONS DISPOSED IN 1982. TRACES REMAIN.
LIQUID GOLD	WASTE OIL, TRACE PCB'S IN SOIL, COPPER IN GROUND-WATER	----	----	MOST REMOVAL COMPLETE
POINT ISABEL	LEADED SEDIMENT	N/A	0	CLEANUP COMPLETED. DELISTED
POINT PINOLE	ZINC IN SLUDGE	N/A	0	NO LONGER A CA SUPERFILL SITE. DELISTED
PORT OF RICHMOND	LEAD, ZINC IN SOIL	2,000	2,000	SOME OF THE TONNAGE INCLUDES DRUMS OF MATERIAL. SIGNIFICANT WASTE ALREADY REMOVED FROM SITE (NOT INCLUDED IN ESTIMATE).
RICHMOND PLATING	HEAVY METALS, HALOGENATED SOLVENTS IN SOIL	100	100	SITE PARTIALLY CHARACTERIZED.

SUMMER CHEMICAL	ZINC, LEAD, TIN, 250	250
	CHROMIUM,	
	ORGANICS IN SOIL	
UNITED HECKATHORN	DDT IN SOIL, DDT 30,000	----
	IN CANAL	
	SEDIMENTS	

SIGNIFICANT
REMOVAL HAS
OCCURRED IN THE
PAST. FURTHER
CHARACTERIZATION
NECESSARY.

SDOHS DRAFTING
RAP. SEDIMENTS TO
DEEP OCEAN
DISPOSAL IS
APPROVED

TOTAL RICHMOND ESTIMATED ON-SITE TONS	39,500
TOTAL CONTRA COSTA COUNTY ESTIMATED ON-SITE TONS	2,279,300-2,771,300
RICHMOND PERCENTAGE OF ON-SITE TONS	1.49%
TOTAL RICHMOND ESTIMATED TONS FOR OFF-SITE DISPOSAL	3,550
TOTAL CONTRA COSTA COUNTY ESTIMATED TONS FOR OFF-SITE DISPOSAL	46,300
RICHMOND PERCENTAGE FOR OFF-SITE DISPOSAL	7.6%

Hazardous Waste Managed On-Site

Within the City, three businesses have permits from the Department of Toxics Substance Control (DTSC) to treat and/or dispose of hazardous waste on their site. These facilities, termed non-commercial hazardous waste management facilities, manage hazardous waste generated on their site or generated from a closed clientele of affiliated companies. These businesses are: Chevron Chemical Co. - Ortho Division, Chevron U.S.A., and Witco Corporation (See Tables C-3, 4, and 5).

Facilities that are permitted by the DTSC to treat and/or dispose of hazardous waste on their site are required to submit monthly on-site disposal reports and annual hazardous waste facility reports to the DTSC. The DTSC summarized for 1986 the quantity of hazardous waste treated on-site by waste group. Since the DTSC program requiring on-site hazardous waste treatment and/or disposal to be reported began during 1985, DTSC could only supply data for 1986. This data was supplemented by a local survey, site visits and interviews. (Refer to Appendix D of the County Hazardous Waste Management Plan (CHWMP) for the Survey; and refer to Section III for data obtained from site visits and interviews.)

TABLE C-3

On-Site 1986:**LARGEST HAZARDOUS WASTE GENERATORS****Name:**Chevron Chemical, Ortho Division
CAD043237486**Size:**

125 Acres

Years in County:Since 1935, previously California Spray
Chemical Company**Type of Business:**

Specialty Chemicals - primarily agricultural

YEAR	<u>ONSITE</u>	TREATMENT DISPOSAL (tons)	+/- 1984
	PROD UNIT		
1984	100	54,889	N/A
1985	140	76,704	+40%
1986	134	74,429	+36%
1987	78	42,804	-22%

<u>WASTE SHIPPED</u>		<u>OFFSITE (tons)</u>	TOTAL LESS DEMOLITION /CLEAN-UP	+/- 1984
ROUTINE WASTES	+/- 1984	DEMOLITION /CLEAN-UP		
1,833	N/A	0	56,722	N/A
1,471	-20%	4,161	78,175	+38%
946	-48%	0	75,375	+35%
512	-72%	733	43,316	-24%

of Employees: 204 Chevron Chemical Employees, 70 Contract Employees

Annual Payroll: \$8,200,000 in 1987

Product-Direct: Crop Protection Chemicals and Gasoline Additives

Indirect: None

TABLE C-4

On-Site 1986: LARGEST HAZARDOUS WASTE GENERATORS

Name: Chevron U.S.A. Inc.
 CAD009114919

Size: 2900 Acres

Years in County: Since 1901

Type of Business: Integrated Petroleum Refinery

YEAR	<u>ONSITE</u>	TREATMENT DISPOSAL (tons)	+/- 1984
	PROD UNIT		
1984	100	17,675	N/A
1985	105	19,199	+9%
1986	116	13,665	-23%
1987	119	1,483	-92%

<u>WASTE SHIPPED OFFSITE (tons)</u>			
DEMOLITION /CLEAN-UP	ROUTINE WASTES	+/- 1984	DEMOLITION /CLEAN-UP
0	30,000	N/A	4,826
7,900	19,048	-37%	2,403
5,184	14,278	-53%	3,329
3,037	15,697	-48%	1,429

TOTAL LESS DEMO-
 LITION/ CLEAN-UP
 CLEAN-UP

+/-
 1984

47,765 N/A
 38,247 -20%
 27,943 -41%
 17,180 64%

of Employees: 1900 Chevron Employees
 500-900 Contact Employees

Annual Payroll: \$120,600,000 in 1987
 \$131,800,000 (projected for 1988)

Product-Direct: Transportation fuels including diesel,
 gasoline, lube oils

Indirect: Ammonia and sulfur products

TABLE C-5

On-Site 1986: LARGEST HAZARDOUS WASTE GENERATORS

Name: Witco Corporation, Argus Division
CAD00913779

Size: 8 Acres

Years in County: Since 1956

Type of Business: Chemical Manufacturing

YEAR	<u>ONSITE</u>		TREATMENT DISPOSAL (tons)	+/- 1984
	PROD	UNIT		
1984	100		40,085	N/A
1985	103		41,488	+3%
1986	127		51,146	+27%
1987	169		53,378	

<u>WASTE SHIPPED OFFSITE (TONS)</u>			+/- 1984
ROUTINE	+/	DEMOLITION	
WASTES	1984	/CLEAN-UP	N/A
75	N/A	0	
114	+52%	1,778	+3%
55	-27	0	+27%
55	-27	0	+33%

of Employees: 44

Annual Payroll: \$1,250,000

Product-Direct: Hardeners for Plastics

Indirect: None

Comments: Reducing production during the next 3-5 years.
Witco Corp, Argus Division will become Research
and Development with limited production.

Types Of Hazardous Waste Management Facilities

There are several basic types of facilities which may be utilized to manage hazardous wastes. Although design variations are common in managing specific types of hazardous wastes, these general descriptions illustrate the principles involved. The types of facilities which are discussed in more detail in the County Hazardous Waste Management Plan (CHWMP) include: (1) Transfer and Storage Facilities, (2) Treatment Facilities, (3) Recycling Facilities, (4) Solidification or Stabilization Facilities, (5) Incineration Facilities, (6) Mobile Treatment Facilities, and (7) Repositories for Treated Residues (See Section I, CHWMP for additional information on these facilities.).

1. Transfer and Storage Facilities:

Hazardous waste transfer and storage facilities serve as collection stations for small quantities of waste, combining like wastes when the quantities become large enough to economically be shipped to a treatment or recycling facility. A typical transfer station occupies from 1-10 acres and has between 2 to 10 employees. Its annual waste acceptance of 10,000 to 40,000 tons could involve weekly incoming traffic ranging from 6 to 75 or more trucks, or 3 to 38 or more rail cars.

2. Treatment Facilities (Example - Aqueous Treatment Facilities):

Liquid waste treatment facilities range in size from 3-30 acres, and typically employ from 15 to 40 workers. A large facility could treat up to 200,000 tons of liquid waste each year. This could involve incoming traffic of approximately 120-230 tanker trucks or 60-120 rail cars.

3. Recycling (Example - Organics Recovery Facilities):

Facilities for recovery of liquid organics, solvent distillation, and oil refining have many storage tanks, pipelines, or distillation and resemble a modern products refinery. The typical liquid organics recovery facility ranges in size from 1-10 acres and employ from 15 to 60 workers. Depending upon the size of the facility, it could accept from 5,000 to 100,000 tons per year. This would involve weekly incoming traffic of 4-78 trucks or 2-39 rail cars.

4. Solidification and Stabilization Facilities:

A solidification facility would be seen as a large industrial building with several tall silos attached for storage of dry chemicals. These facilities range in size from 1-10 acres and employs from 15 to 30 workers. Depending upon the size of the facility, it could accept from 5,000 to 100,000 tons per year. This would involve weekly incoming traffic of 4-78 trucks or 2-39 rail cars.

5. Incinerators:

An incinerator facility would typically require 4-10 acres of land and would employ from 2 to 12 workers. A small incinerator might process 5,000 tons of waste per year. Weekly incoming traffic associated with these facilities range from 3-130 trucks or from 2-65 rail cars.

6. Mobile Treatment:

Mobile treatment units (Transportable Treatment Units or TTU's) are treatment works which are designed to be moved either intact or in modules, and are intended to be operated at a given location for a limited period of time.

7. Repositories for Treated Residues:

A hazardous waste repository would typically require from 50-300 acres, and would employ from 15-25 workers. Weekly incoming traffic associated with this type of facility ranges from 9-54 trucks or 5-27 rail cars. A repository for treated residues would be sited in industrial designated areas, or in remote areas where zoning is compatible with hazardous waste disposal.

Regulators

As a part of the Contra Costa County Hazardous Waste Management Plan, the Hazardous Materials Commission reviews local regulatory programs to ensure regulatory coordination. With a myriad of laws and agencies involved in hazardous materials/waste management, it is important that regulatory agencies at all levels of government coordinate their inspections, report submittals, permitting, fees, and data requests of hazardous materials/waste handlers. This will result in less cost and greater efficiencies in government and easier compliance on the part of hazardous materials/waste handlers.

Local Programs

The County Health Services Department (CHSD) is responsible for safeguarding public health and the environment from the impacts of hazardous materials incidents. This responsibility led to the creation of the Emergency Response program in the early 1980s.

Environmental Control

Any hazardous waste facility, either on-site or off-site, shall operate in accordance with applicable laws, regulations, and permit requirements. Although the County Health Services Department is not responsible for inspecting these facilities (it is primarily the State Department of Health Services' responsibility), the County Health Services Department is responsible for coordinating with other agencies concerning the status of these facilities with regard to any violations of enforcement actions.

All hazardous waste treatment facilities in California must be designed and operated to incorporate environmental control measures which conform to the standards, regulations, and permit conditions of the Bay Area Air Quality Management District (BAAQMD), the Department of Toxics Substance Control (DTSC), the Regional Water Quality Control Board (RWQB), the Uniform Building Code, the Uniform Fire Code and the National Fire Code.

Standards and regulations of the U.S. Environmental Protection Agency (EPA) concerning hazardous waste facilities are imposed in California by the DTSC (the requirement to obtain and maintain interim authorization from EPA pursuant to Resource Conservation and Recovery Act). Regulatory inspection, monitoring, and enforcement requirement for these facilities are set by the DTSC, the BAAQMD and the RWQCB. Local health officers are authorized, by statute, to enforce DTSC regulations and permit conditions.

Existing/New Off-Site Facilities in Richmond

Currently the only existing off-site hazardous waste management facility in the City of Richmond is California Advanced Environmental Technology Corporation (CAETC). Formerly operated by Bay Area Environmental, the facility is located at 1125 Hensley Street in the heavy industrial area of North Richmond and is a hazardous waste storage/transfer station. Hazardous waste that enters the site is grouped and temporarily stored before being transferred to a hazardous waste treatment or disposal facility.

Erickson, Incorporated is a newly proposed hazardous waste transfer/treatment facility that will be located on Goodrick and Parr Boulevard in the unincorporated area of North Richmond. The facility will be under County supervision when erected.

Waste Minimization Program

Waste minimization techniques can be grouped into four (4) major categories: (1) Inventory Management and Improved Operations, (2) Modifications of Equipment, (3) Production Process and Improved Operations, and (4) Recycling and Reuse. Such techniques have application across a range of industrial and manufacturing processes, and can apply to non-hazardous as well as to hazardous waste.

The following is a list of waste minimization techniques which apply to non-hazardous and hazardous waste:

1. Inventory Management and Improved Operations:
 - a. Inventory/trace all new raw materials throughout the production process.
 - b. Purchase fewer hazardous and more non-hazardous production materials.

- c. Implement employee training and management feedback.
 - d. Improve material receiving, storage, and handling practices.
2. Modification of Equipment:
- a. Install equipment with the Best Available Technology.
 - b. Modify equipment to enhance recovery or recycling options.
 - c. Redesign equipment to enhance recovery or recycling options.
 - d. Improve operating efficiency of equipment.
 - e. Maintain a strict preventive maintenance program.
3. Production Process Changes:
- a. Substitute non-hazardous for hazardous raw materials.
 - b. Segregate wastes by the type of recovery.
 - c. Eliminate sources of leaks and spills.
 - d. Separate hazardous from non-hazardous wastes.
4. Recycling and Reuse:
- a. Install closed-loop systems.
 - b. Recycle on-site and off-site wastes for reuse.
 - c. Exchange wastes.

Other Sources Of Waste

Waste is not only generated by large generators but by Small Quantity Generators as well. A Small Quantity Generator (SQG) is most commonly defined as one that generates less than 1,000 (2200 lbs) kilograms of hazardous waste per month or approximately 12 tons per year. In California, all hazardous waste transported off-site, including waste from SQG's must be manifested by the business generators of the waste or by a route service hauler.

Many SQG's are served by route service haulers. These services collect small quantities of hazardous waste from businesses. The services may have routes that extend to numerous counties. The generators that utilize routes haulers are exempt from the manifesting requirement. The route haulers, however, manifest under a modified system whereby their entire load is manifested at one time from the city where their business is located (Refer to 3-16, County Hazardous Waste Management Plan).

The most common generators of wastes are households. Although the generators of hazardous waste are commonly associated with industry, households contain a myriad of consumer products that, when disposed of, constitute hazardous waste. Such common products are:

Solvent-based paints	Pool Chemicals	Batteries
Sealants	Transmission Fluid	Waste Oil
Pesticides	Antifreeze	Photoprocessing

Currently, households are exempt from manifesting requirements.

NOISE ENVIRONMENT

Throughout this technical report, a variety of technical terms are used to describe the noise environment of the City of Richmond. Definitions for these terms are provided in the Glossary at the end of Section C.

Characteristics of Sound

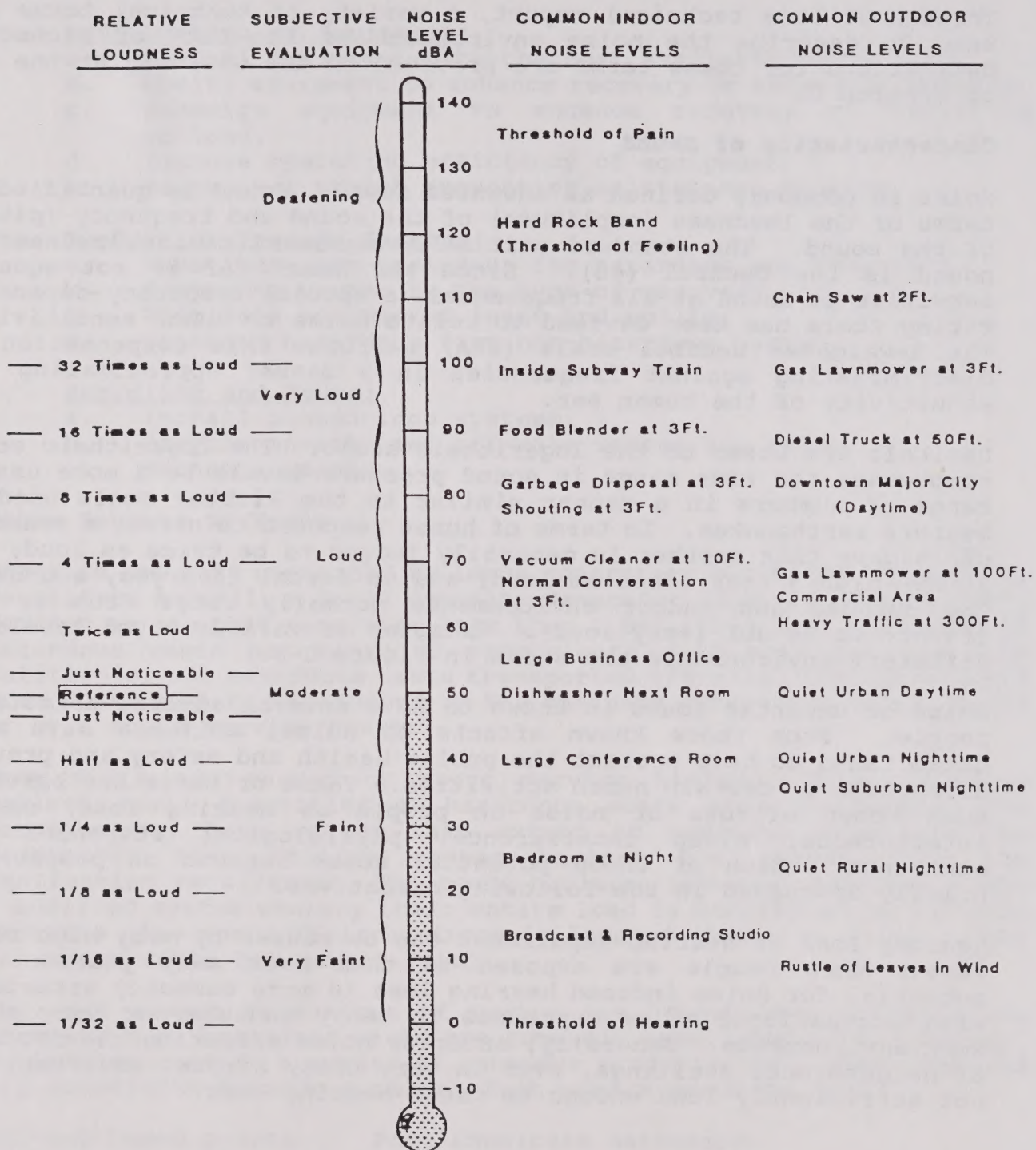
Noise is commonly defined as unwanted sound. Sound is quantified in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the Decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is generally judged to be twice as loud; and 20 dBA higher four times as loud; and so forth. Everyday sounds in the outdoor and indoor environments normally range from 30 dBA (faint) to 90 dBA (very loud). Examples of various sound levels in different environments are shown in Figure C-3.

Noise or unwanted sound is known to have several adverse effects on people. From these known effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. These criteria are based on such known effects of noise on people as hearing loss, speech interference, sleep interference, physiological responses and annoyance. Each of these potential noise impacts on people are briefly discussed in the following narratives.

Hearing Loss or hearing impairment can be caused by very high sound levels when people are exposed to them over many years. The potential for noise induced hearing loss is more commonly associated with occupational noise exposures in heavy industry or very noisy work environments. Generally, exterior noise affecting the interior of neighborhood dwellings, even in very noisy airport environs, are not sufficiently loud enough to cause hearing loss.

Figure C-3
Examples of Typical Sound Levels



RE: 20 Micropascals

Source: Engineering-Science, Inc.

The Environmental Protection Agency has established a guideline L_{eq} of 70 dBA as the limit for indoor or outdoor noise in order to protect against hearing loss with an adequate margin of safety. This limit assumes continuous 24-hour exposure for 40 years. Shorter noise exposure periods would allow higher levels without hearing damage. Whereas noise exposure does not continue 24-hours a day in people's lives (i.e., dwelling unit interior noise environments typically range from 35 dBA to 55 dBA), outdoor community noise levels would not cause hearing damage until an L_{eq} of 85 dBA or higher is reached. Then hearing damage might occur only if an 85 dBA or higher outdoor L_{eq} continued in a person's life for 40 years, 24-hours a day (assuming lower noise levels in the person's home).

Speech Interference is one of the primary concerns in environmental noise problems. Normal conversational speech is in the range of 60 to 65 dBA and any noise in this range or louder may interfere with speech. There are specific methods of describing speech interference as a function of voice level and the distance between speaker and listener. Figure C-4 shows the impact of noise on speech interference.

Sleep Interference is a major noise concern because sleep is the most noise-sensitive human activity. Sleep disturbance studies have identified interior noise levels that have the potential to cause sleep disturbance. Note that sleep disturbance does not necessarily mean awakening from sleep, but can refer to altering the pattern and stages of sleep. Generally, the average noise level in the interior sleeping quarters should not exceed 35 to 40 dBA, and the maximum noise level should not exceed 45 dBA in order to minimize sleep interference.

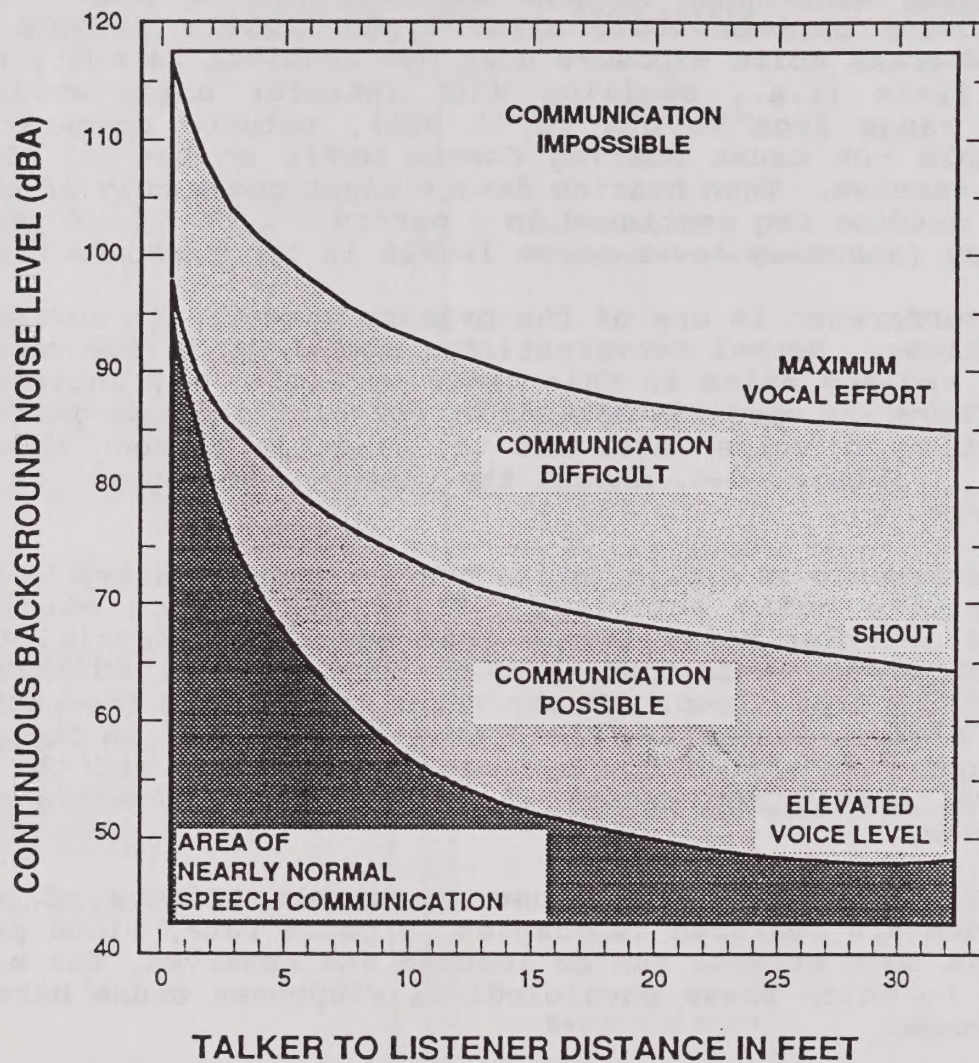
Physiological Responses are those measurable effects of noise on people which are realized as changes in pulse rate, blood pressure, etc. While such effects can be induced and observed, the extent is not known to which these physiological responses cause harm or are signs of harm.

Annoyance is the most difficult of all noise responses to evaluate. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another of equal hearing capability.

Noise Metrics and Assessment Criteria

Community noise is generally not a steady, continuous level but varies with time. Under conditions of non-steady state noise, some type of statistical metric is necessary in order to quantify noise exposure over a long period of time with a single-number descriptor. Several rating scales have been developed for describing the effects of noise on people. The scales most commonly used in the U.S. based on time-averaged sound levels are: the Equivalent Sound Level (L_{eq}),

FIGURE C-4
EFFECTS OF NOISE ON SPEECH INTERFERENCE



Source: Physics, 1975

the Day-Night Average Level (Ldn), and the Community Noise Equivalent Level (CNEL). These noise metrics are described in the Glossary at the end of Section.

Extensive research has been conducted on human responses to exposures at various levels of noise using the Ldn, CNEL and Leq scales. Figure C-5 relates Ldn noise levels to community reactions from many of these surveys. Community noise standards are derived from tradeoffs between community response surveys, such as shown in Figure C-5, and economic considerations for achieving these levels.

Intermittent, varying or occasional noise such as industrial plant or commercial equipment noise, cyclical air conditioning equipment noise, trash collection truck noise on private properties, construction equipment noise, or other stationary noise sources are sometimes not loud enough or long enough duration to exceed community noise standards that are based on a time-averaged scale such as Ldn. To adequately describe intermittent noise such as those described above, another noise scale commonly used is the Percent Noise Level (L%) and the maximum noise level (Lmax). The Percent Noise Level and Lmax are described in the Glossary.

Noise ordinances are typically specified in terms of Leq, Lmax and the Percent Noise Levels. Ordinances are designed to protect people from non-transportation related noise sources such as commercial and industrial equipment, construction equipment, and various other noise activities on private property. Noise Ordinances do not apply to motor vehicle noise on public streets or other transportation related noise sources that are preempted by the State or Federal noise standards.

Land Use Noise Compatibility Guidelines

Noise compatibility guidelines have been produced by a number of Federal and State agencies. The following have been selected as appropriate to the Richmond Noise Element: the Federal Highway Administration (FHWA), the Environmental Protection Agency (EPA), the Department of Housing and Urban Development, the American National Standards Institute and the State of California. The EPA and FHWA guidelines are included below as "guidelines" only, the State Noise Compatibility Matrix is included in Volume I as a standard for reviewing projects.

The ENVIRONMENTAL PROTECTION AGENCY (EPA) published in March 1974 a widely used and accepted document entitled, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin of Safety, (EPA, 1974). Table C-6 presents a table of land uses and requisite noise levels. In this Table, Ldn 55 is described as the requisite level with an adequate margin of safety for areas with outdoor uses, this includes residences, and recreational areas.

The EPA "Levels Document" does not constitute a standard, specification or regulation, but identifies safe levels of environmental noise exposure without consideration for economic cost for achieving these levels. However, this criteria is recommended for use in the development of the Richmond Noise Ordinance to regulate all non-transportation related noise sources.

The FEDERAL HIGHWAY ADMINISTRATION (FHWA) has adopted and published noise abatement criteria for highway construction projects (FHWA, 1976). The noise abatement criteria specified by the FHWA are presented in Table C-7 in terms of the one hour Equivalent Sound Level (Leq) and L10 measured during peak (free-flowing) traffic noise conditions. The FHWA noise abatement criteria basically establishes an exterior noise goal for residential land uses of 67 Leq and an interior goal for residences of 52 Leq (the limits for L10 are 3 dBA higher on the exterior and interior). The noise abatement criteria applies to private yard areas and assumes that typical wood frame homes with windows open provide 15 dB of noise attenuation (outdoor to indoor).

The STATE requires each city and county to adopt a Noise Element to their General Plans. Such Noise Element must contain a Land Use Noise Compatibility Matrix (Figure NE-1), which is also included in the Noise Element in Volume I of the Richmond General Plan. Figure C-6 presents this recommended matrix.

Methodology For Determining the Noise Environment in Richmond

The noise environment in Richmond was determined through a series of noise measurements at selected locations throughout the City and incorporating the measurement results into computer noise models to develop Ldn contours for existing and future conditions. The Ldn contours are represented in increments of 5 dBA showing the regions from 55 to 70 dBA.

The following paragraphs detail the methodology used in the noise measurement surveys and the development of noise contours using computer modeling.

Measurement Procedure. Seventeen sites were selected for measurement of the noise environment in Richmond. The sites were reviewed and approved by members of the Richmond Planning Department. The measurement locations are shown in Figure C-7 at the end of Section C.

The measurement system consisted of a Larson-Davis model 870 Environmental Noise Monitor (an integrating sound level meter) with a one-inch, free-field microphone, random incidence corrector, windscreen, tripod and calibrator. The system meets ANSI specifications for a Type 0 instrument. The system was calibrated

FIGURE C-5
COMMUNITY REACTIONS TO VARIOUS LEVELS OF NOISE

**COMMUNITY
REACTION***

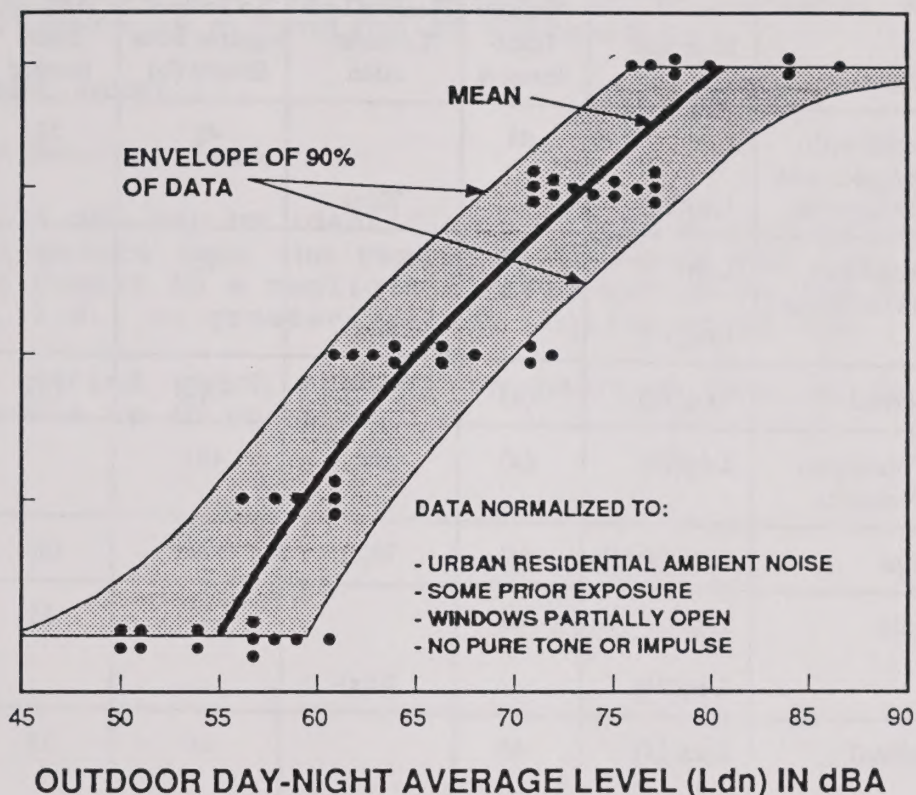
VIGOROUS
COMMUNITY
ACTION

SEVERAL THREATS
OF LEGAL ACTION,
OR STRONG APPEALS
TO LOCAL OFFICIALS
TO STOP NOISE

WIDESPREAD
COMPLAINTS OR
SINGLE THREAT OF
LEGAL ACTION

SPORADIC
COMPLAINTS

NO REACTION,
ALTHOUGH NOISE
IS GENERALLY
NOTICEABLE



* Assumes an indoor noise environment 10-15 dBA less than outdoor level (windows partially open).

TABLE C-6

SOUND LEVELS IDENTIFIED BY THE ENVIRONMENTAL PROTECTION AGENCY AS REQUISITE TO PROTECT THE PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

Land Use	Measure	Indoor			Outdoor		
		Activity Interference	Hearing Loss Consideration	To Protect Against Both Effects (b)	Activity Interference	Hearing Loss Consideration	To Protect Against Both Effects (b)
Residential with Outside Space and Farm Residences	Ldn	45		45	55		55
	Leq(24)		70(e)			70(e)	
Residential with No Outside Space	Ldn	45		45			
	Leq(24)		70(e)				
Commercial	Leq(24)	(a)	70(e)	70(c)	(a)	70(e)	70(c)
Inside Transportation Vehicles	Leq(24)	(a)	70(e)	(a)			
Industrial	Leq(24)(d)	(a)	70(e)	70(c)	(a)	70(e)	70(c)
Hospitals	Ldn	45		45	55		55
	Leq(24)		70(e)			70(e)	
Educational	Leq(24)	45		45	55		55
	Leq(24)(d)		70(e)			70(e)	
Recreational Areas	Leq(24)	(a)	70(e)	70(c)	(a)	70(e)	70(c)
Farm Land and General Unpopulated Land	Leq(24)				(a)	70(e)	70(c)

Notes:

- Since different types of activities appear to be associated with different levels, identification of a maximum level for activity interference may be difficult except in those circumstances where speech communication is a critical activity (See Figure 2 for the effects of noise level on speech interference as a function of distance.)
- Based on lowest level.
- Based only on hearing loss.
- An Leq(8) of 75 dBA may be identified in these situations so long as the exposure over the remaining 16 hours per day is low enough to result in a negligible contribution to the 24-hour average, i.e., no greater than an Leq(16) of 60 dBA.
- The exposure period which results in hearing loss at the identified levels is 40 years.

Source: EPA, 1974

Notes:

- a. Since different types of activities appear to be associated with different levels, identification of a maximum level for activity interference may be difficult except in those circumstances where speech communication is a critical activity (See Figure F-5 for the effects of noise level on speech interference as a function of distance.)
- b. Based on lowest level.
- c. Based only on hearing loss.
- d. An $Leq(8)$ of 75 dBA may be identified in these situations so long as the exposure over the remaining 16 hours per day is low enough to result in a negligible contribution to the 24-hour average, i.e., no greater than an $Leq(16)$ of 60 dBA.
- e. The exposure period which results in hearing loss at the identified levels is 40 years.

Source: EPA, 1974

TABLE C-7.

FEDERAL HIGHWAY ADMINISTRATION NOISE ABATEMENT CRITERIA

Category	Hourly A-weighted Sound Level ¹		Description of Activity Category
	Leq(h), dBA	L10(h), dBA	
A	57 (Exterior)	60 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to serve its intended purpose.
B	67 (Exterior)	70 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D			Undeveloped lands
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Notes:

- ¹ Either L10(h) or Leq(h) (but not both) may be used on a project.
(h) Indicates a one-hour noise descriptor (worst-case traffic noise hour).

Source: FHWA, 1976

FIGURE C-6.
STATE OF CALIFORNIA LAND USE NOISE COMPATIBILITY MATRIX

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE L _{dn} or CNEL, dBA					
	55	60	65	70	75	80
RESIDENTIAL LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES						
RESIDENTIAL - MULTI FAMILY						
TRANSIENT LODGING- MOTELS, HOTELS						
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES						
AUDITORIUMS, CONCERT HALLS AMPHITHEATERS						
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS						
PLAYGROUNDS, NEIGHBORHOOD PARKS						
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES						
OFFICE BUILDINGS BUSINESS COMMERCIAL AND PROFESSIONAL						
INDUSTRIAL, MANUFACTURING UTILITIES, AGRICULTURE						

INTERPRETATION

 NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

 CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

 NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.

 CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

at the factory within a year prior to the surveys and was calibrated during the surveys to insure accurate results. The calibration instruments used in the factory and in the field are traceable to the National Institute of Standards and Technology.

At each of the seventeen measurement sites, the noise level was monitored for a minimum of fifteen minutes during daytime hours. The minimum, maximum and average noise levels were recorded along with a description of the measurement conditions and noise sources affecting the environment. Traffic volumes and speeds were also recorded at sites which were predominantly affected by roadway or BART traffic noise.

Roadway Noise Model. The roadway traffic noise contours developed for the Noise Element were computed using the Highway Traffic Noise Prediction Model developed by the Federal Highway Administration (FHWA, 1978). The FHWA Model uses traffic volume, truck percentages, vehicle speed, and roadway geometry to compute the Leq noise level. A computer code has been written which computes the distances to the Ldn contours from the roadways. The computer model was calibrated to the noise measurements using the traffic data recorded during the surveys. The traffic data used to develop the existing and future Ldn contour distances was obtained from state, county and local government agencies. A listing of all the roadways and traffic data used in the computer model is provided in Table C-8. Figure C-7 (see end of Section C) identifies most of the major arterials which were considered in the development of noise contours.

Railway Noise Model. For railroad and rapid transit noise assessments, the "Noise Environments Around Railroad Operations" (Wyle, 1983), and HUD "Noise Assessment Guidelines" (HUD, 1983) methods were used to develop Ldn contours. Data inputs to the noise model include: train speed, number of cars and locomotives per train, number of trains, time distribution of the trains, grade of track and type of track. Railroad operational data was obtained from the Southern Pacific Transportation Company, Amtrak (which operates on the S. P. rail line), the Atchison Topeka and Santa Fe Railroad Company, and the Bay Area Rapid Transit System. The 2010 operational data for Amtrak, A.T. & S.F. and S. P. rail companies was not available. Therefore, it was estimated for noise planning purposes that the number of operations over the next 20 years could double as a worst-case scenario for the three rail companies.

BART is an electrified train system which produces different noise levels than freight and Amtrak trains. Therefore noise measurements of BART operations were used to calibrate the train noise model for BART noise predictions. Expansions of BART in Richmond include a future service to the City of Crockett. Two

TABLE C-8
EXPLANATION OF TRAFFIC DATA

The traffic data input requirements for the roadway traffic noise prediction model are shown in the attached table. The following descriptions of the table headings are provided for clarification:

ADT - Average Daily Traffic volume (counted or projected). This is the total number of vehicles in all lanes and both directions (or one direction if street is one-way) passing a given point in a 24-hour period. ADT's for the years 1990 and 2010 are required. For accuracy in noise modeling, the ADT should be within plus or minus 20 percent of the true volume.

%MT - Percentage of Medium Trucks. This represent a percentage of the ADT pertaining to two-axle, six-wheel trucks with a gross weight greater than 10,000 pounds but less than 26,000 pounds. Example: UPS trucks and other types of delivery trucks and step vans. Pick-up trucks with dual tires in rear are not included. For accuracy, the truck percentage should be within plus or minus 1 of the true percentage if less than 5%, plus or minus 2 if between 5% and 10%, and plus or minus 4 if between 10% and 20%.

%HT - Percentage of Heavy Trucks. This represent a percentage of the ADT pertaining to trucks with three or more axles and a gross weight greater than 26,000 pounds. Example: cement mixers, 18-wheelers, school or transportation buses, dump-trucks. For accuracy, the truck percentage should be within plus or minus 1 of the true percentage if less than 5%, plus or minus 2 if between 5% and 10%, and plus or minus 4 if between 10% and 20%.

SPEED - Traffic speed in miles per hour. This is generally taken to be the posted speed or the traffic design speed. For accuracy, the speed should be within plus or minus 10 mph of the true speed if less than 40 mph, and plus or minus 5 mph if greater than 40 mph.

%DAY, %EVE, %NITE - Percentage of the ADT volume that occurs during daytime hours (7am-7pm), evening hours (7pm-10pm) and nighttime hours (10pm-7am), respectively. These three percentages are normally calculated from actual traffic counts and must add up to 100%. If traffic counts are not available for some road segments, then it is normally acceptable to assign percentages from a similar roadway in a similarly developed area where counts are available. For accuracy, the %EVE values should be within plus or minus 3 of the true percentage and the %NITE values should be within plus or minus 2.

AHW - Active Half Width of the roadway. This value is used to calculate the noise level from multi-lane roads and represents half the distance between the center lines of the outermost lanes of travel (through traffic lanes), including the median width. Example: A 6-lane roadway with a 20-foot median has an AHW of 40 feet ($6 \times 12' = 72' - 12'$ to get to center line of outer travel lanes = $60' + 20'$ median = $80'$, then divide by 2 = $40'$). For accuracy, the AHW should be within plus or minus 10 feet of the true dimension.

%RD GRD - Percent of road grade (uphill or downhill). It is calculated by taking the difference in road elevation between two points and dividing it by the horizontal distance from the first point to the second. (To express as a percentage, multiply by 100). For accuracy, road grade percentages should be within plus or minus 0.5 of the true grade, and road grades less than 2 percent can be ignored for noise purposes.

NO.	ROADWAY	SEGMENT	YEAR	ADT	%MT	%HT	SPEED	%DAY	%EVE	%NITE	AHW	%RD. GRD.	NOTES
1	CASTRO ST.	I-580 TO GATE #31	1990	6700	6	9	35	94	8	8	6	0	1,9,13,16,18
2	CASTRO ST.	GATE #31 TO HENSLEY	1990	6700	6	9	45	90	8	2	18	0	1,9,13,16
3	CASTRO ST.	HENSLEY TO 7TH ST	1990	6700	6	9	45	90	8	2	6	0	1,9,13,16
4	FILBERT ST.	CASTRO TO MARKET	1990	11900	4	8	25	80	10	10	10	0	1,9,13,16,18
5	FILBERT ST.	CASTRO TO MARKET	2010	7700	2	4	25	80	10	10	10	0	3,7,9,13,16
6	GARRARD BL.	DORNAN TO CUTTING	2010	27400	4	8	30	78	12	10	18	0	2,7,9,16
7	GARRARD BL.	CUTTING TO CANAL	1990	5000	4	8	40	80	9	11	18	0	1,9,13,16
8	GARRARD BL.	CUTTING TO CANAL	2010	18700	4	8	40	80	9	11	18	0	2,7,9,13,16
9	GARRARD BL.	CANAL TO BARRETT	1990	12600	4	8	40	81	9	10	18	0	1,9,13,16,18
10	GARRARD BL.	BARRETT TO PENNSYLV.	1990	7300	4	8	35	80	9	11	18	0	1,9,13,16
11	6TH STREET	BARRETT TO MACDONALD	1990	5300	10	2	25	80	15	5	6	0	1
12	6TH STREET	BARRETT TO MACDONALD	2010	7950	10	4	25	80	15	5	6	0	1
13	HARBOUR WAY	WRIGHT TO I-580	1990	7040	20	4	35	85	7	8	6	0	
14	HARBOUR WAY	WRIGHT TO I-580	2010	26600	20	4	35	90	6	4	6	0	2,7
15	HARBOUR WAY	I-580 TO CUTTING	1990	7000	4	8	25	80	8	12	32	0	1,10,13,18
16	HARBOUR WAY	I-580 TO CUTTING	2010	38500	4	8	25	80	8	12	32	0	2,7,10,13,18
17	HARBOUR WAY	CUTTING TO OHIO	1990	4400	4	8	25	80	8	12	18	0	1,10,13,16
18	HARBOUR WAY	CUTTING TO OHIO	2010	40800	4	8	25	80	8	12	18	0	2,7,10,13,16
19	HARBOUR WAY	OHIO TO MACDONALD	1990	14800	4	8	25	76	12	12	18	0	1,10,13,16,18
20	HARBOUR WAY	OHIO TO MACDONALD	2010	22200	4	8	25	76	12	12	18	0	6,10,13,16,18
21	HARBOUR WAY	MACDONALD TO PENNSYLV.	1990	10500	4	8	25	78	13	9	6	0	1,10,13,16
22	HARBOUR WAY	MACDONALD TO PENNSYLV.	2010	15750	4	8	25	78	13	9	6	0	6,10,13,16
23	MARINA WAY	HALL TO WRIGHT	1990	1046	10	3	35	87	5	8	25	0	
24	MARINA WAY	HALL TO WRIGHT	2010	62050	10	3	35	87	5	8	25	0	2,7,13
25	MARINA WAY	WRIGHT TO CUTTING	1990	1400	10	3	35	82	10	8	18	0	13
26	MARINA WAY	WRIGHT TO CUTTING	2010	14500	10	3	35	82	10	8	18	0	2,7,13
27	MARINA WAY	CUTTING TO OHIO	1990	5600	4	1	30	75	13	12	6	0	1,13,16
28	MARINA WAY	CUTTING TO OHIO	2010	8400	4	1	30	75	13	12	6	0	6,13,16
29	MARINA WAY	OHIO TO BARRETT	1990	8700	4	1	25	77	13	10	6	0	1,13,16
30	MARINA WAY	OHIO TO BARRETT	2010	13050	4	1	25	77	13	10	18	0	6,13,16
31	13TH STREET	PENNSYLV. TO LINCOLN	1990	23200	15	4	35	80	11	9	20	0	1
32	13TH STREET	PENNSYLV. TO LINCOLN	2010	34800	15	4	35	80	11	9	20	0	6
33	13TH STREET	LINCOLN TO COSTA	1990	18900	15	4	30	71	15	14	18	0	1,18
34	13TH STREET	LINCOLN TO COSTA	2010	20700	15	4	30	71	15	14	18	0	6,18
35	RUMRILL BL.	COSTA TO BROOKSIDE	1990	27100	15	4	35	82	7	11	18	0	1
36	RUMRILL BL.	COSTA TO BROOKSIDE	2010	40650	15	4	35	82	7	11	18	0	6
37	RUMRILL BL.	BROOKSIDE TO SAN PABLO AV.	1990	25800	15	4	35	82	7	11	18	0	1
38	RUMRILL BL.	BROOKSIDE TO SAN PABLO AV.	2010	28600	15	4	35	82	7	11	18	0	3,7
39	22ND STREET	CARLSON TO MACDONALD	1990	8200	6	2	25	80	10	10	6	0	1
40	22ND STREET	CARLSON TO MACDONALD	2010	12300	6	2	25	80	10	10	6	0	6

Table C-8
1990 and 2010 Roadway Traffic Data

NO.	ROADWAY	SEGMENT	YEAR	ADT	%MT	%HT	SPEED	%DAY	%EVE	%NITE	AHW	%RD. GRD.	NOTES
41	22ND STREET	MACDONALD TO BARRETT	1990	10000	6	2	25	80	10	10	6	0	1
42	22ND STREET	MACDONALD TO BARRETT	2010	15000	6	2	25	80	10	10	6	0	6
43	22ND STREET	BARRETT TO 23RD	1990	13300	6	2	25	76	12	12	6	0	1
44	22ND STREET	BARRETT TO 23RD	2010	19950	6	2	25	76	12	12	6	0	6
45	MARINA BAY PKWY	PIERSON TO I-580	1990	8600	6	2	30	76	11	13	27	0	
46	MARINA BAY PKWY	PIERSON TO I-580	2010	22700	6	2	30	76	11	13	27	0	2,7
47	23RD STREET	I-580 TO CUTTING	1990	8600	1	3	30	75	11	14	27	0	1,10
48	23RD STREET	I-580 TO CUTTING	2010	48700	1	3	30	75	11	14	27	0	2,7,10
49	23RD STREET	CUTTING TO CARLSON	1990	12700	1	3	30	74	12	14	18	0	1,10,13,16,18
50	23RD STREET	CUTTING TO CARLSON	2010	36200	1	3	30	74	12	14	18	0	2,7,10,13,16,18
51	23RD STREET	CARLSON TO MACDONALD	1990	10000	1	3	30	71	17	12	10	0	1,10,13,16,18
52	23RD STREET	CARLSON TO MACDONALD	2010	15000	1	3	30	71	17	12	10	0	6,10,13,16,18
53	23RD STREET	MACDONALD TO BARRETT	1990	12500	1	3	30	71	18	11	10	0	1,10,13,16,18
54	23RD STREET	MACDONALD TO BARRETT	2010	18750	1	3	30	71	18	11	10	0	6,10,13,16,18
55	23RD STREET	BARRETT TO RHEEM	1990	26900	1	3	30	70	13	17	18	0	1,10,13,16
56	23RD STREET	BARRETT TO RHEEM	2010	40350	1	3	30	70	13	17	18	0	6,10,13,16
57	23RD STREET	RHEEM TO SAN PABLO AV.	1990	24200	1	3	30	71	13	16	31	0	1,10,13
58	23RD STREET	RHEEM TO SAN PABLO AV.	2010	36300	1	3	30	71	13	16	31	0	6,10,13
59	CARLSON BL.	CENTRAL TO BURLINGAME	1990	16000	2	4	35	76	15	9	18	0	1,10,13,16
60	CARLSON BL.	CENTRAL TO BURLINGAME	2010	11900	2	4	35	76	15	9	18	0	2,7,10,13,16
61	CARLSON BL.	BURLINGAME TO BAYVIEW	1990	16000	2	4	35	80	10	10	18	0	1,10,13,16
62	CARLSON BL.	BURLINGAME TO BAYVIEW	2010	25550	2	4	35	80	10	10	18	0	2,7,10,13,16
63	CARLSON BL.	BAYVIEW TO POTRERO	1990	12000	2	4	35	72	17	11	22	0	1,10,13,16,18
64	CARLSON BL.	BAYVIEW TO POTRERO	2010	4400	2	4	35	72	17	11	22	0	2,7,10,13,16
65	CARLSON BL.	POTRERO TO CUTTING	1990	16000	2	4	35	75	14	11	23	0	1,10,13,16,18
66	CARLSON BL.	POTRERO TO CUTTING	2010	9400	2	4	35	75	14	11	23	0	2,7,10,13,16
67	CARLSON BL.	CUTTING TO 23RD	1990	17100	2	4	35	79	12	9	25	0	1,10,13,16
68	CARLSON BL.	CUTTING TO 23RD	2010	600	2	4	35	79	12	9	25	0	2,7,10,13,16
69	37TH STREET	CUTTING TO MACDONALD	1990	4900	4	1	25	80	11	9	6	0	1
70	37TH STREET	CUTTING TO MACDONALD	2010	4200	4	1	25	80	11	9	6	0	2,7
71	SAN PABLO AV.	S. CITY LIMITS TO PANAMA	1990	20000	1	3	30	70	20	10	25	0	10,13,16
72	SAN PABLO AV.	S. CITY LIMITS TO PANAMA	2010	48950	1	3	30	70	20	10	25	0	2,7,10,13,16
73	SAN PABLO AV.	PANAMA TO POTRERO	1990	18000	1	3	30	70	20	10	25	0	10,13,16
74	SAN PABLO AV.	PANAMA TO POTRERO	2010	38100	1	3	30	70	20	10	25	0	2,7,10,13,16
75	SAN PABLO AV.	POTRERO TO BARRETT	1990	24000	1	3	30	71	19	10	25	0	1,10,13,16
76	SAN PABLO AV.	POTRERO TO BARRETT	2010	53400	1	3	30	71	19	10	25	0	2,7,10,13,16
77	SAN PABLO AV.	BARRETT TO I-80	1990	20600	1	3	30	73	17	10	18	0	1,10,13,16,18
78	SAN PABLO AV.	BARRETT TO I-80	2010	30900	1	3	30	73	17	10	18	0	6,10,13,16,18
79	SAN PABLO AV.	I-80 TO RHEEM	1990	23000	1	3	30	72	16	12	18	0	1,10,13,16,18
80	SAN PABLO AV.	I-80 TO RHEEM	2010	34500	1	3	30	72	16	12	18	0	6,10,13,16,18

Table C-8
1990 and 2010 Roadway Traffic Data (continued)

NO.	ROADWAY	SEGMENT	YEAR	ADT	%MT	%HT	SPEED	%DAY	%EVE	%NITE	AHW	%RD. ORD.	NOTES
81	SAN PABLO AV.	RHEEM TO SAN PABLO DAM	1990	29700	1	3	35	73	18	9	18	0	1,10,13,16
82	SAN PABLO AV.	RHEEM TO SAN PABLO DAM	2010	44550	1	3	35	73	18	9	18	0	6,10,13,16
83	SAN PABLO AV.	SAN PABLO DAM TO CHURCH	1990	22600	1	3	35	74	16	10	18	0	1,16
84	SAN PABLO AV.	SAN PABLO DAM TO CHURCH	2010	33900	1	3	35	74	16	10	18	0	6,16
85	SAN PABLO AV.	CHURCH TO ROAD 20	1990	16500	1	3	35	72	17	11	18	0	1,13,16
86	SAN PABLO AV.	CHURCH TO ROAD 20	2010	24750	1	3	35	72	17	11	18	0	6,13,16
87	SAN PABLO AV.	ROAD 20 TO RUMRILL	1990	27900	1	3	35	69	12	19	18	0	1,16
88	SAN PABLO AV.	ROAD 20 TO RUMRILL	2010	41850	1	3	35	69	12	19	18	0	6,16
89	SAN PABLO AV.	RUMRILL TO N. CITY LIMITS	1990	22000	1	3	35	73	16	11	18	4.8	1,12,16
90	SAN PABLO AV.	RUMRILL TO N. CITY LIMITS	2010	40500	1	3	35	73	16	11	18	4.8	3,7,12,16
91	VALLEY VIEW RD.	MAY TO SAN PABLO DAM	1990	10600	2	0	30	74	16	10	18	0	1
92	VALLEY VIEW RD.	MAY TO SAN PABLO DAM	2010	15900	2	0	30	74	16	10	18	0	6
93	CASTRO RANCH RD.	N. OF SAN PABLO DAM	1990	6000	1	0	35	84	9	7	12	0	1
94	CASTRO RANCH RD.	N. OF SAN PABLO DAM	2010	9000	1	0	35	84	9	7	12	0	6
95	RICHMOND PKWY. 1A	I-580 TO RAILROAD	2010	35300	7	13	45	65	10	25	25	0	2,7,9,15,16
96	RICHMOND PKWY. 1A	RAILROAD TO HENSLEY	2010	36700	7	13	45	65	10	25	25	0	2,7,9,15,16
97	RICHMOND PKWY. 1A	HENSLEY TO CASTRO	2010	35000	7	13	45	65	10	25	25	0	2,7,9,15,16
98	RICHMOND PKWY. 1B	I-580 TO MACDONALD	2010	30500	4	2	40	65	10	25	25	0	2,7,9,15,16
99	RICHMOND PKWY. 1B	MACDONALD TO HENSLEY	2010	41900	4	2	40	65	10	25	25	0	2,7,9,15,16
100	RICHMOND PKWY. 1B	HENSLEY TO CASTRO	2010	38400	4	2	40	65	10	25	25	0	2,7,9,15,16
101	RICHMOND PKWY. 2	CASTRO TO GERTRUDE	2010	71100	6	6	45	65	10	25	36	0	2,7,9,15,16
102	RICHMOND PKWY. 3	GERTRUDE TO PITTSBURG	2010	50100	6	6	45	65	10	25	36	0	2,7,9,15,16
103	RICHMOND PKWY. 3	PITTSBURG TO PARR	2010	52000	6	6	45	65	10	25	36	0	2,7,9,15,16
104	RICHMOND PKWY. 4	PARR TO GOODRICK	2010	53200	6	6	45	65	10	25	36	0	2,7,9,15,16
105	RICHMOND PKWY. 4	GOODRICK TO GIANT	2010	50400	6	6	45	65	10	25	36	0	2,7,9,15,16
106	RICHMOND PKWY. 5	GIANT TO HILLTOP	2010	60700	6	6	45	65	10	25	36	0	2,7,9,15,16
107	RICHMOND PKWY. 5	HILLTOP TO SAN PABLO AV	2010	47600	6	6	45	65	10	25	36	0	2,7,9,15,16
108	RICHMOND PKWY.	SAN PABLO AV TO I-80	1990	4300	6	6	45	65	10	25	31	4.7	1,12
109	RICHMOND PKWY. 6	SAN PABLO AV TO LAKESIDE	2010	51600	6	6	45	65	10	25	36	4.7	2,7,9,12,15,16
110	RICHMOND PKWY. 6	LAKESIDE TO BAYVIEW	2010	48500	6	6	45	65	10	25	36	4.7	2,7,9,12,15,16
111	RICHMOND PKWY. 6	BAYVIEW TO I-80	2010	62800	6	6	45	65	10	25	36	4.7	2,7,9,12,15,16
112	INTERSTATE 80	S. OF CENTRAL	1990	153000	2	5	55	69	12	19	34	0	4,8,14,17,18
113	INTERSTATE 80	S. OF CENTRAL	2010	219200	2	5	55	69	12	19	34	0	4,7,8,14,17,18
114	INTERSTATE 80	CENTRAL TO CARLSON	1990	157000	2	5	55	69	12	19	34	0	4,8,14,17
115	INTERSTATE 80	CENTRAL TO CARLSON	2010	212600	2	5	55	69	12	19	34	0	4,7,8,14,17
116	INTERSTATE 80	CARLSON TO POTRERO	1990	153000	2	5	55	69	12	19	34	0	4,8,14,17
117	INTERSTATE 80	CARLSON TO POTRERO	2010	219100	2	5	55	69	12	19	34	0	4,7,8,14,17
118	INTERSTATE 80	POTRERO TO CUTTING	1990	138000	2	5	55	69	12	19	34	0	4,8,14,17
119	INTERSTATE 80	POTRERO TO CUTTING	2010	227000	2	5	55	69	12	19	34	0	4,7,8,14,17
120	INTERSTATE 80	CUTTING TO MACDONALD	1990	168000	2	4	55	69	12	19	34	2.3	4,8,11,14,17

Table C-8
1990 and 2010 Roadway Traffic Data (continued)

[illegible]

Table C-8
1990 and 2010 Roadway Traffic Data (continued)

Table C-8
1990 and 2010 Roadway Traffic Data (continued)

NO.	ROADWAY	SEGMENT	YEAR	ADT	%MT	%HT	SPEED	%DAY	%EVE	%NITE	AHW	%RD. GRD.	NOTES
1	ATLAS ROAD	GIANT TO SAN PABLO AV	1990	4300	4	8	25	90	5	5	6	4	1,10,12
2	ATLAS ROAD	GIANT TO SAN PABLO AV	2010	13100	4	8	25	90	5	5	6	4	3,7,10,12
3	HILLTOP DRIVE	SAN PABLO AV TO R.H.MILLER	1990	18700	1	3	40	70	17	13	20	0	1,10,13,16
4	HILLTOP DRIVE	SAN PABLO AV TO R.H.MILLER	2010	28050	1	3	40	70	17	13	20	0	6,10,13,16
5	HILLTOP DRIVE	R.H.MILLER TO SHANE	1990	27700	1	3	40	70	17	13	25	0	1,10,13,16
6	HILLTOP DRIVE	R.H.MILLER TO SHANE	2010	24000	1	3	40	70	17	13	25	0	6,10,13,16
7	HILLTOP DRIVE	SHANE TO I-80	1990	27700	1	3	35	75	12	13	25	4.3	1,10,12,13,16,18
8	HILLTOP DRIVE	SHANE TO I-80	2010	24000	1	3	35	75	12	13	25	4.3	3,7,10,12,13,16
9	HILLTOP DRIVE	I-80 TO E. CITY LIMITS	1990	14200	2	1	40	72	16	12	6	0	1
10	HILLTOP DRIVE	I-80 TO E. CITY LIMITS	2010	21300	2	1	40	72	16	12	6	0	6
11	ROBT.H.MILLER WY	SAN PABLO AV TO HILLTOP	1990	17100	1	3	40	72	15	13	31	6.5	1,12
12	ROBT.H.MILLER WY	SAN PABLO AV TO HILLTOP	2010	25650	1	3	40	72	15	13	31	6.5	6,12
13	PARR BLVD.	FILBERT TO RUMRILL	1990	7200	4	10	40	88	5	7	6	0	1
14	PARR BLVD.	FILBERT TO RUMRILL	2010	11600	6	14	40	88	5	7	6	0	3,7
15	ROAD 20	SAN PABLO AV TO EL PORTAL	1990	8800	3	5	25	76	17	7	6	0	1
16	ROAD 20	SAN PABLO AV TO EL PORTAL	2010	13200	4	6	25	76	17	7	6	0	6
17	EL PORTAL DR.	SAN PABLO AV TO ROAD 20	1990	24800	3	4	30	82	2	16	18	0	1
18	EL PORTAL DR.	SAN PABLO AV TO ROAD 20	2010	37200	3	4	30	82	2	16	18	0	6
19	EL PORTAL DR.	ROAD 20 TO I-80	1990	24800	3	4	25	82	2	16	18	0	
20	EL PORTAL DR.	ROAD 20 TO I-80	2010	38000	3	4	25	82	2	16	18	0	
21	MARKET AVENUE	FILBERT TO RUMRILL	1990	12000	6	8	25	82	2	16	6	0	1
22	MARKET AVENUE	FILBERT TO RUMRILL	2010	18000	6	8	25	82	2	16	6	0	6
23	MARKET AVENUE	RUMRILL TO CHURCH	1990	9400	6	8	25	73	13	14	6	0	1
24	MARKET AVENUE	RUMRILL TO CHURCH	2010	14100	6	8	25	73	13	14	6	0	6
25	SAN PABLO DAM RD.	SAN PABLO AV TO I-80	1990	19870	3	2	35	81	10	9	18	0	13
26	SAN PABLO DAM RD.	SAN PABLO AV TO I-80	2010	31770	3	2	35	81	10	9	18	0	13
27	SAN PABLO DAM RD.	I-80 TO EL PORTAL	1990	26470	3	2	35	78	9	13	24	5	12,13
28	SAN PABLO DAM RD.	I-80 TO EL PORTAL	2010	41890	3	2	35	78	9	13	24	5	12,13
29	SAN PABLO DAM RD.	EL PORTAL TO APPIAN WY	1990	35200	3	2	35	75	13	12	18	0	5,13,18
30	SAN PABLO DAM RD.	EL PORTAL TO APPIAN WY	2010	52800	3	2	35	75	13	12	18	0	6,13,18
31	SAN PABLO DAM RD.	APPIAN WY TO MAY RD	1990	25500	3	2	35	77	11	12	18	0	5,13,18
32	SAN PABLO DAM RD.	APPIAN WY TO MAY RD	2010	38250	3	2	35	77	11	12	18	0	6,13,18
33	SAN PABLO DAM RD.	MAY RD TO VALLEY VIEW	1990	17800	3	2	25	75	12	13	18	0	5,13,18
34	SAN PABLO DAM RD.	MAY RD TO VALLEY VIEW	2010	26700	3	2	25	75	12	13	18	0	6,13,18
35	SAN PABLO DAM RD.	VALLEY VIEW TO E.CITY LIMIT	1990	16300	3	2	25	78	10	12	18	0	5,13,18
36	SAN PABLO DAM RD.	VALLEY VIEW TO E.CITY LIMIT	2010	24450	3	2	25	78	10	12	18	0	6,13,18
37	RHEEM AVENUE	13TH TO 23RD	1990	4600	2	1	25	77	12	11	6	0	1
38	RHEEM AVENUE	13TH TO 23RD	2010	6900	2	1	25	77	12	11	6	0	6
39	RHEEM AVENUE	23RD TO SAN PABLO AV	1990	6700	2	1	25	69	17	14	6	0	1
40	RHEEM AVENUE	23RD TO SAN PABLO AV	2010	10050	2	1	25	69	17	14	6	0	6

Table C-8
1990 and 2010 Roadway Traffic Data (continued)

NO.	ROADWAY	SEGMENT	YEAR	ADT	%MT	%HT	SPEED	%DAY	%EVE	%NITE	AHW	%RD. GRD.	NOTES
41	PENNSYLVANIA AV.	GARRARD TO 7TH	1990	10000	5	4	30	76	13	11	18	0	1
42	PENNSYLVANIA AV.	GARRARD TO 7TH	2010	Too Low	3	2	30	76	13	11	18	0	6
43	PENNSYLVANIA AV.	7TH TO HARBOUR	1990	12200	5	4	30	76	12	12	18	0	1
44	PENNSYLVANIA AV.	7TH TO HARBOUR	2010	5000	3	1	30	76	12	12	18	0	6
45	BARRETT AV.	GARRARD TO 7TH	1990	6500	1	3	25	69	16	15	6	0	1,10,13,16,18
46	BARRETT AV.	GARRARD TO 7TH	2010	15300	1	3	25	69	16	15	18	0	3,7,10,13,16,18
47	BARRETT AV.	7TH TO HARBOUR	1990	6500	1	3	25	69	16	15	37	0	1,10,13,16,18
48	BARRETT AV.	7TH TO HARBOUR	2010	9750	1	3	25	69	16	15	37	0	6,10,13,16,18
49	BARRETT AV.	HARBOUR TO 23RD	1990	14700	1	3	25	84	8	8	18	0	1,10,13,16,18
50	BARRETT AV.	HARBOUR TO 23RD	2010	22050	1	3	25	84	8	8	18	0	6,10,13,16,18
51	BARRETT AV.	23RD TO 37TH	1990	12700	1	3	30	77	14	9	18	0	1,10,13,16
52	BARRETT AV.	23RD TO 37TH	2010	40700	1	3	30	77	14	9	18	0	3,7,10,13,16
53	BARRETT AV.	37TH TO E. CITY LIMITS	1990	19000	1	3	30	72	15	13	18	0	1,10,13,16,18
54	BARRETT AV.	37TH TO E. CITY LIMITS	2010	40700	1	3	30	72	15	13	18	0	3,7,10,13,16,18
55	MACDONALD AV.	GARRARD TO 6TH	1990	5000	1	3	25	73	14	13	18	0	1,10,13,16
56	MACDONALD AV.	GARRARD TO 6TH	2010	11400	1	3	25	73	14	13	18	0	2,7,10,13,16
57	MACDONALD AV.	6TH TO MARINA	1990	10200	1	3	25	74	14	12	13	0	1,10,13,16,18
58	MACDONALD AV.	6TH TO MARINA	2010	27700	1	3	25	74	14	12	13	0	2,7,10,13,16,18
59	MACDONALD AV.	MARINA TO 35TH	1990	13600	1	3	25	79	12	9	18	0	1,10,13,16,18
60	MACDONALD AV.	MARINA TO 35TH	2010	20400	1	3	25	79	12	9	18	0	6,10,13,16,18
61	MACDONALD AV.	35TH TO 42ND	1990	17800	1	3	25	82	12	6	18	0	1,10,13,16,18
62	MACDONALD AV.	35TH TO 42ND	2010	26700	1	3	25	82	12	6	18	0	6,10,13,16,18
63	MACDONALD AV.	42ND TO I-80	1990	15800	1	3	25	70	19	11	27	0	1,10,13,16,18
64	MACDONALD AV.	42ND TO I-80	2010	23700	1	3	25	70	19	11	27	0	6,10,13,16,18
65	MACDONALD AV.	I-80 TO SAN PABLO AV	1990	10900	1	3	25	77	17	6	18	0	1,10,13,16
66	MACDONALD AV.	I-80 TO SAN PABLO AV	2010	16350	1	3	25	77	17	6	18	0	6,10,13,16
67	OHIO AVENUE	GARRARD TO 1ST	2010	9500	2	4	40	79	8	13	6	0	1
68	OHIO AVENUE	1ST TO 6TH	2010	9500	2	4	30	79	8	13	6	0	2,7
69	OHIO AVENUE	6TH TO 23RD	1990	5100	2	4	25	82	11	7	6	0	1
70	OHIO AVENUE	6TH TO 23RD	2010	18700	2	4	25	82	11	7	6	0	2,7
71	CUTTING BLVD.	GARRARD TO CANAL	1990	2000	4	8	35	74	16	10	18	0	10,13
72	CUTTING BLVD.	GARRARD TO CANAL	2010	10300	4	8	35	74	16	10	18	0	2,7,10,13
73	CUTTING BLVD.	CANAL TO I-580	1990	Too Low	4	8	35	83	7	10	24	0	1
74	CUTTING BLVD.	CANAL TO I-580	2010	Too Low	4	8	35	83	7	10	24	0	2,7
75	CUTTING BLVD.	I-580 TO HARBOUR	1990	16800	4	8	35	82	9	9	24	0	10,13,16
76	CUTTING BLVD.	I-580 TO HARBOUR	2010	10600	4	8	35	82	9	9	24	0	2,7,10,13,16
77	CUTTING BLVD.	HARBOUR TO MARINA	1990	16800	4	8	35	78	12	10	24	0	1,10,13,16
78	CUTTING BLVD.	HARBOUR TO MARINA	2010	15300	4	8	35	78	12	10	24	0	2,7,10,13,16
79	CUTTING BLVD.	MARINA TO 23RD	1990	23700	4	8	35	74	13	13	24	0	1,10,13,16
80	CUTTING BLVD.	MARINA TO 23RD	2010	13900	4	8	35	74	13	13	24	0	2,7,10,13,16

NO.	ROADWAY	SEGMENT	YEAR	ADT	%MT	%HT	SPEED	%DAY	%EVE	%NITE	AHW	%RD. GRD.	NOTES
81	CUTTING BLVD.	23RD TO CARLSON	1990	26000	4	8	35	72	14	14	24	0	1,10,13,16,18
82	CUTTING BLVD.	23RD TO CARLSON	2010	25300	4	8	35	72	14	14	24	0	2,7,10,13,16
83	CUTTING BLVD.	CARLSON TO 49TH	1990	22500	4	8	35	78	12	10	24	0	1,10,13,16
84	CUTTING BLVD.	CARLSON TO 49TH	2010	22000	4	8	35	78	12	10	24	0	2,7,10,13,16
85	CUTTING BLVD.	49TH TO SAN PABLO AV	1990	22000	4	8	35	71	14	15	24	0	10,13,16
86	CUTTING BLVD.	49TH TO SAN PABLO AV	2010	39100	4	8	35	71	14	15	24	0	2,7,10,13,16
87	POTRERO AVENUE	CARLSON TO I-80	1990	5000	1	2	30	69	17	14	6	0	1
88	POTRERO AVENUE	49TH TO SAN I-80	2010	8200	1	2	30	69	17	14	6	0	2,7
89	POTRERO AVENUE	I-80 TO SAN PABLO AV	1990	5000	1	2	30	69	17	14	8	0	
90	POTRERO AVENUE	I-80 TO SAN PABLO AV	2010	15850	1	2	30	69	17	14	8	0	2,7
91	INTERSTATE 580	TOLL PLAZA TO CASTRO	1990	50000	2	3	55	74	10	16	42	0	4,8,14,17,18
92	INTERSTATE 580	TOLL PLAZA TO CASTRO	2010	181100	2	3	55	74	10	16	42	0	2,7,8,14,17
93	INTERSTATE 580	CASTRO TO CANAL	1990	48500	3	5	55	74	10	16	100	0	4,8,14,17
94	INTERSTATE 580	CASTRO TO CANAL	2010	133300	3	5	55	74	10	16	100	0	2,7,8,14,17
95	INTERSTATE 580	CANAL TO HARBOUR	1990	48500	3	5	55	74	10	16	42	0	4,8,14,17
96	INTERSTATE 580	CANAL TO HARBOUR	2010	156400	3	5	55	74	10	16	42	0	2,7,8,14,17
97	INTERSTATE 580	HARBOUR TO 23RD	1990	58000	3	5	55	74	10	16	42	0	4,8,14,17
98	INTERSTATE 580	HARBOUR TO 23RD	2010	173700	3	5	55	74	10	16	42	0	2,7,8,14,17
99	INTERSTATE 580	23RD TO ERLANDSON	1990	62000	3	5	55	74	10	16	42	0	4,8,14,17
100	INTERSTATE 580	23RD TO ERLANDSON	2010	195900	3	5	55	74	10	16	42	0	2,7,8,14,17
101	INTERSTATE 580	ERLANDSON TO BAYVIEW	1990	65000	3	5	55	74	10	16	42	0	4,8,14,17
102	INTERSTATE 580	ERLANDSON TO BAYVIEW	2010	202500	3	5	55	74	10	16	42	0	2,7,8,14,17
103	INTERSTATE 580	BAYVIEW TO CENTRAL	1990	72000	3	5	55	74	10	16	42	0	4,8,14,17
104	INTERSTATE 580	BAYVIEW TO CENTRAL	2010	192300	3	5	55	74	10	16	42	0	2,7,8,14,17
105	INTERSTATE 580	CENTRAL TO S.CITY LIMITS	1990	72000	3	5	55	74	10	16	42	0	4,8,14,17
106	INTERSTATE 580	CENTRAL TO S.CITY LIMITS	2010	205500	3	5	55	74	10	16	42	0	2,7,8,14,17
107													
108													
109													
110													

Table C-8
1990 and 2010 Roadway Traffic Data (continued)

NOTES ON TABLE C-8

1. ADT is taken from 1990 Richmond Volume Flow Map (Richmond, 1990).
2. ADT is taken from DKS study (DKS, 1991a,b).
3. ADT is taken from Richmond Parkway EIR (ES, 1990).
4. ADT is taken from Caltrans source (Caltrans, 1989a, 1991a,b,c).
5. ADT is taken from County source (Contra Costa County, 1991).
6. 2010 ADT is calculated by multiplying 1990 ADT times 1.5 (based on 2% annual growth).
7. 2010 ADT is calc. by multiplying the proj. 2005 ADT times 1.1 (based on 2% annual growth).
8. Truck percentages are taken from Caltrans source (Caltrans, 1989b).
9. Truck percentages are taken from DKS study (DKS, 1991a).
10. Truck percentages are estimates from Richmond Traffic Engineering (Richmond, 1991).
11. Road grade is taken from Caltrans as-built drawings (Caltrans, 1991d).
12. Road grade is taken from USGS topographic quad map (USGS, 1980).
13. Traffic speed is estimate from Richmond Traffic Engineering (Richmond, 1991).
14. Traffic speed is estimate from ES field checks (ES, 1991a).
15. Traffic speed is taken from DKS study (DKS, 1991a).
16. AHW is taken from data provided by Richmond Traffic Engineering (Richmond, 1991).
17. AHW is taken from ES field checks (ES, 1991).
18. %DAY, %EVE, %NITE is calculated from 24 hour traffic counts.

alternative alignments (Alternatives 1 and 3) were considered in the future noise assessment of BART. These alignments were taken from a BART newsletter dated September 1991 and titled, "West Contra Costa Extension Alignment Study." Alternatives 1 and 3 were chosen for noise assessments for the following reasons: First, Alternatives 1 and 2 are very similar; Second, Alternative 1 approximates the originally proposed alignment for the BART extension and is the City's preferred alternative; Third, Alternative 3 follows I-80 and is substantially different from Alternatives 1 and 2; BART has eliminated Alternative 3 from consideration; and Fourth, Alternative 4 follows the railroad right-of-way, is the least likely of the four alternatives to be selected, and its noise impact would be overshadowed by the railroad operation noise. The operational data for each rail line are provided in Table C-9.

Measurement Results. The noise measurement surveys were conducted from April 8, 1991 to April 10, 1991 at seventeen locations throughout the City of Richmond. The results of the ambient noise measurements at each site are provided in Table C-10. Also included in Table C-10 are noise measurements which were taken from some of the noise studies conducted in the City of Richmond since 1984. The noise measurement results were used to calibrate the noise models for the development of the Ldn contour maps.

Noise Contours. The existing and future noise levels in the City were developed in terms of the Day-Night Average Level (Ldn) by modeling all of the major transportation systems for the existing (1990) and future (2010) conditions. The graphic results of the Ldn contours were developed on an Intergraph CAD/GIS machine. These results are presented on Figures C-8 through C-13 (see end of Section C). Note that these contour maps do not include the noise shielding effect of all buildings, walls and other structures except for specific noise barriers identified on Figure C-7 (see end of Section C).

Summary of Noise Exposure

The predominant noise sources in Richmond, as in most other communities, are transportation systems. These include major streets and highways, and train and rapid transit operations on rail lines within the City. Figure C-7 (see end of Section C) identifies the transportation systems which dominate the noise environment in the City. The noise environment in Richmond is typical of what would be expected of a suburban community.

TABLE C-9.

RAILROAD AND BART OPERATIONS ASSUMPTIONS

<u>A.T. & S.F. RAILROAD OPERATIONAL DATA</u>	<u>YEAR 1990</u>	<u>YEAR 2010</u>
7-day average number of 24-hour operations	18.0	36.0
7-day average number of operations between 10pm and 7am	8.0	16.0
7-day average number of diesel locomotives per train	3.0	3.0
7-day average number of cars per train	40.0	40.0
Average speeds vary at different segments	10-45 mph	10-45mph
Track condition	All Bolted	All Bolted
Horn usage at crossings	Yes	Yes

<u>S.P. RAILROAD OPERATIONAL DATA</u>	<u>YEAR 1990</u>	<u>YEAR 2010</u>
7-day average number of 24-hour S.P. operations	12.0	24.0
7-day average number of 24-hour Amtrak operations	10.0	20.0
7-day average number of S.P. operations between 10pm and 7am	4.4	8.8
7-day average number of Amtrak Ops. between 10pm and 7am	2.0	4.0
7-day average number of diesel locomotives per S.P. train	2.0	2.0
7-day average number of diesel locomotives per Amtrak train	2.0	2.0
7-day average number of cars per S.P. train	46.3	46.3
7-day average number of cars per Amtrak train	7.0	7.0
Average speeds at different segments	All 60 mph	All 60 mph
Track condition	All Welded	All Welded
Horn usage at crossings	Yes	Yes

BART OPERATIONAL DATAYEAR 1990 YEAR 2010

7-day average number of 24-hour electrified train operations	228.3*	310.1**
7-day avg. no. of 24-hour elec. train Ops. (Future Crockett Service)	--	133.4**
7-day average number of operations between 10pm and 7am	36.3	49.3
7-day avg. no. of Ops. from 10pm - 7am (Future Crockett Service)	--	11.1
7-day average number of cars per train	4.6	4.6
Average speeds vary at different segments	26-70 mph	26-70 mph
Track condition	All Welded	All Welded
Horn usage at crossings	Peak periods	Peak periods

* Based on 15 min. weekday peak headways each direction, and 20 Min. off-peak and weekend headways each direction (headway means spacing between arrivals or departures).

** Based on 10 min. weekday peak headways each direction, and 20 Min. off-peak and weekend headways each direction (headway means spacing between arrivals or departures).

Sources: ATSF, 1991; SPTC, 1991a,b; Amtrak, 1991; BART, 1990a,b, 1991a,b,c,d; Krove, 1991.

TABLE C-10.
NOISE MEASUREMENT RESULTS

----- MEASUREMENT -----				15 MIN. NOISE LEVELS, dBA			
LOCATION	DATE	TIME	NEAREST CROSS STREETS	MIN	MAX	Leq	COMMENTS
1	4-10-91	7:05A	Lettia Rd & Christine Dr	46	57	52	No Trains
2	4-08-91	4:45P	Hilltop Dr & Shane Dr	53	85	69	Street Traffic
3	4-09-91	6:05P	San Pab Dam Rd & Pheasant L	46	76	66	Street Traffic
4	4-10-91	1:50P	Castro Ranch Rd & Deer Run	41	72	60	Street Traffic
5	4-10-91	7:50A	Chelsey Ave & S.P. R.R.	52	74	60	Street Traffic; No Trains
6	4-08-91	1:40P	San Pablo Ave & Garvin Ave	52	78	67	Street Traffic
7	4-08-91	2:20P	I-80 & Solano Ave	62	80	68	I-80 Traffic
8	4-10-91	8:30A	Garrard Bl & 1st Street	56	64	59	Street Traffic
9	4-08-91	1:05P	Barrett Ave & 30th Street	45	80	67	Street Traffic
10	4-08-91	12:30P	BART & 33rd Street Ped Xing	41	75	57	BART Operations
11	4-09-91	4:45P	Maine Ave & S. 28th Street	53	82	61	Street Traffic; Helicopter
12	4-10-91	10:00A	Tewksbury Ave & Marine St	58	74	66	I-580 Traffic
13	4-10-91	9:15A	Railroad St & Tewksbury Ave	55	87	67	Hvy. Trucks & Street Traffic
14	4-10-91	11:55A	Virginia Ave & S. 6th Street	54	73	61	I-580 Traffic
15	4-09-91	5:15P	Hoffman Bl & S. 29th Street	59	77	66	I-580 Traffic; Helicopter
16	4-10-91	10:45A	Mariposa St & Santa Clara St	54	75	60	Distant Frwy. Traffic & Train
17	4-10-91	11:20A	Mendocino St & Burlingame Av	48	73	56	Street Traffic
18	6-8,9-87	AM & PM	Chanslor Av & Garrard Bl	--	--	66	Street Traffic (ES, 1988)
19	11-13-84	9-11A	Rachel Rd & Christine Dr	--	--	60	Street Traffic (ES, 1986)
20	11-13-84	9-11A	Don Way & Williams Dr	--	--	55	Distant Industry (ES, 1986)
21	11-13-84	9-11A	Tasco Ct (cul-de-sac)	--	--	45	Distant Frwy & Const (ES, 1986)
22	11-13-84	9-11A	Market Av & Jade St	--	--	51	Industry (ES, 1986)
23	2-08-89	2-5P	Giant Hwy across from Rivers	--	--	59-61	Traffic & Industry (ESA, 1989)
24	2-28-90	9A-1P	Harbour Wy & Chandler Av	--	--	53-59	Industry (Bendix, 1989)
25	2-28-90	9A-1P	Regatta Bl & Schooner	--	--	45-54	Gen Backgnd & St Traf (Bendix, 1989)
26	3-22-89	N/A	Cutting Bl & Wine St	48	82	62	Street Traffic (Ward, 1989)

Other sources of noise within the City include industrial and commercial activities, an outdoor gun range, sport activities within public parks, construction, transient aircraft overflights to and from other cities, neighborhood sources such as lawn mowers and air conditioning equipment, other human activities and animal activities such as dog barking.

Freeways. According to the results of the noise measurement surveys and the roadway noise model analyses, Interstate 80 and Interstate 580 are the most predominate noise sources within the city for both existing and future conditions (refer to Figures C-8 and C-9 at end of Section C).

Major and Minor Arterial Roadways. Roadways which produce the highest noise impact currently include Castro Street, Garrard Blvd., Rumrill Blvd., 23rd Street, Hilltop Drive, Robert H. Miller Drive, San Pablo Avenue and San Pablo Dam Road. The Richmond Parkway will be a predominant noise source in future years. The average noise increase for roadways in the year 2010 is 2 to 3 dBA (refer to Figures C-8 and C-9).

In general, most of the land uses along the major roadways are commercial or residential with some mitigation measures incorporated into the design. The mitigation is in terms of sound walls or setbacks from the roadway. However, there are a number of residential homes that are located along some of the major and secondary arterials which are or will be exposed to noise levels greater than 65 Ldn.

Railroads. The BART system currently does not produce substantially high noise levels nor will it in future years. Noise contours for the "Alternative 1" alignment to the Crockett area also do not show substantial noise impacts. The noise contours shown for BART vary in their width along portions of the rail line. This is due to primarily to varying speeds and the number of BART operations which pass a given point on the rail line (refer to Figures C-10 and C-11 at end of Section C).

The three rail companies which operate on the two other rail lines produce significant noise levels currently. The future projections for these rail operations are based on a doubling in the total number of train operations which resulted in approximately 3 dBA increase in future years. This noise projection was an assumption to estimate the worst potential noise increase. Both the existing and future railroad noise projections include the effects of train horns at various locations along the rail lines. Train horns, where used when approaching intersections, produce significantly wider noise contours as shown in the areas around Garrard and Cutting Boulevards (refer to Figures C-12 and C-13 at end of Section C).

REFERENCES

Baseline Environmental Consulting, Draft Environmental Impact Report Point Pinole Mixed-Use Development Project, November 1991.

California Archaeological Consultants, Inc., Investigation of Cultural Resources within the Richmond Harbour Redevelopment Project 11-A, Richmond, Contra Costa County, California, March 1981.

City of Richmond, Concise General Plan Document, September 1987.

City of Richmond, "Noise Element," Richmond General Plan, October 1975.

City of Richmond, "Scenic Routes Element," Richmond General Plan, October 1975.

Contra Costa County, "Final County Hazardous Waste Management Plan," June 1989.

Contra Costa County, "Preliminary Historic Resources Inventory," 1976.

Engineering-Science, Inc., "Technical Report for the Update of the Noise Element of the Richmond General Plan," December 31, 1991.

Freytag, PE, John C., "Wareham Development, Frogtown Rezoning & General Plan Change, Noise Input to Focused EIR," Charles M. Salter Associates, Inc., San Francisco, March 28, 1989.

Hall Goodhue Haisley and Barker, Shoreline Conservation and Development Strategy, Technical Memorandum Number 2: Planning Analysis, July 1986.

U. S. Department of Transportation, Federal Highway Administration and the State of California Department of Transportation, Final Environmental Impact Statement, Volume 1, Operational Improvements in Alameda and Contra Costa Counties, I-80 and I-180, Feb. 1984.

U. S. Department of Transportation, Federal Highway Administration and the State of California Department of Transportation, Final Environmental Impact Statement, Volume 1, Hoffman Corridor in Albany and Richmond in Alameda and Contra Costa Counties, August 1980.

ADDENDUM 1

GLOSSARY

A-Weighted Sound Level (dBA or dB(A)). The sound pressure level in decibels as measured on a sound level meter using the A-Weighted filter network. It is a numerical method of rating human judgement of loudness. The A-Weighting filter is an electronic network built in to most of the sound level meters in use today, and causes the meter to measure sound in much the same way that people hear sound. That is, the A-weighting is increasingly less sensitive as the frequency or pitch becomes lower than 1000 Hertz or higher than 4000 Hertz (for reference, telephones normally ring at frequencies between 500 and 3000 Hertz).

Ambient Noise Level. The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Community Noise Equivalent Level (CNEL). CNEL is a rating of the 24-hour average noise level in an environment which accounts for peoples increased annoyance to noise occurring in the evening and nighttime hours. It is the average equivalent A-Weighted sound level during a 24-hour day, calculated after adding five (5) decibels to sound levels which occur in the evening after 7 p.m. and before 10 p.m., and ten (10) decibels to sound levels which occur in the night after 10 p.m. and before 7 a.m. Note: CNEL is generally considered approximately equal to Ldn since they are generally within 0.5 dBA of each other. Although the noise contour maps have been developed using the Ldn noise metric, CNEL is described here since some of the environmental noise criteria developed in California and referenced in the technical report are based on CNEL. According to the current State guidelines, CNEL is an optional noise descriptor which can be used in the preparation of Noise Elements.

Decibel (dB). The decibel is the common unit for measuring sound level and is generally provided on most sound level meters. The decibel is equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound being measured over the reference pressure, which is 20 microPascals.

Equivalent Sound Level (Leq). Leq is the average sound level in an environment where the sound level changes, however, the Leq is not a simple arithmetic average of the sound level over time, but is a logarithmic average. Leq is the "energy" average noise level over a period of time. Leq can be measured for any time period, but is typically measured for some increment or fraction of an hour such as 15 minutes, 1 hour or 24-hours.

Excessive Noise Zones. For the Richmond Noise Element, noise may be excessive when it exceeds an Ldn of 55 dBA. Exterior noise mitigation may be required to meet the interior noise requirement at noise-sensitive land uses if building windows are expected to be kept open for ventilation purposes. Where the noise level exceeds an Ldn of 65 dBA, exterior living space at noise-sensitive land uses will require noise mitigation. Any proposed noise-sensitive development which may be impacted by a total Ldn of 55 dBA or more should be evaluated in a noise study report which demonstrates that the exterior and interior noise standards can be met and possibly require the implementation of noise control measures to do so.

Exterior Living Space. The exterior living space refers to noise-sensitive land uses only and includes private yards of single-family residences, private patios of multi-family residences which have a dwelling entry accessing them, all exterior areas of mobile home parks, and any other private exterior area of a noise-sensitive land use where people are expected to spend time in leisure and relaxation.

Frequency. Tone or pitch. The frequency range of human beings is approximately 20 to 20,000 Hertz in a young healthy person. Frequency refers to the number of times per second that sound pressure oscillates above and below the ambient barometric pressure. The unit of frequency is Hertz. The abbreviation is Hz.

Intrusive Noise. That noise which intrudes over and above the ambient noise at a given location. The relative intrusiveness of noise depends upon its sound level, duration, frequency, time of occurrence, and characteristics of the noise such as tones or abruptness.

L10. See Percent Noise Level.

Ldn Contours. Lines drawn around a noise source indicating constant or equal level of the Day-Night Average Level.

Leq. See Equivalent Sound Level.

Lmax. The maximum A-weighted sound level that occurred during a measurement period with the sound level meter set on slow response.

MicroPascals. The Pascal (a unit of measurement) is one way of describing pressure such as air pressure. 20 microPascals (0.00002 Pascals) is a reference quantity which can be used when describing the fluctuations of air pressure created by sound waves.

Noise Attenuation. Noise reduction. The ability of a material, substance, or medium to reduce the noise level from one place to another or between one room and another. Noise attenuation is specified in decibels.

Noise-Sensitive Land Use. Those specific land uses which have associated indoor and/or outdoor human activities that may be subject to speech, hearing or sleep interference, and/or annoyance from noise produced by community sound sources. Such human activity typically occurs daily for continuous period of 24 hours or is of such a nature that noise is significantly disruptive to activities that occur for short periods. Specifically, noise-sensitive land uses include:

- o single- and multifamily residences
- o mobile homes
- o transient lodging such as motels and hotels
- o dormitories
- o hospitals
- o convalescent care and rest/nursing facilities
- o any other use which contains sleeping quarters
- o places of worship
- o libraries
- o educational facilities
- o auditoriums

Percent Noise Level (L%). The level exceeded X% of the time during a measurement period. For example, The A-Weighted sound level exceeded 10 percent of the sample time, L10, is used by the FHWA in noise criteria for highway projects. Similarly used are L50, L25, L90, etc.

Sound Level (Noise Level). The magnitude or quantity of sound expressed in decibels, and may be obtained by use of a sound level meter.

Sound Level Meter. An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels. For purposes of conducting noise measurements for studies required by the City of Richmond Noise Element, a "Type 2" or better sound level meter should be used according to the American National Standards Institute (ANSI) S1.4 standards.

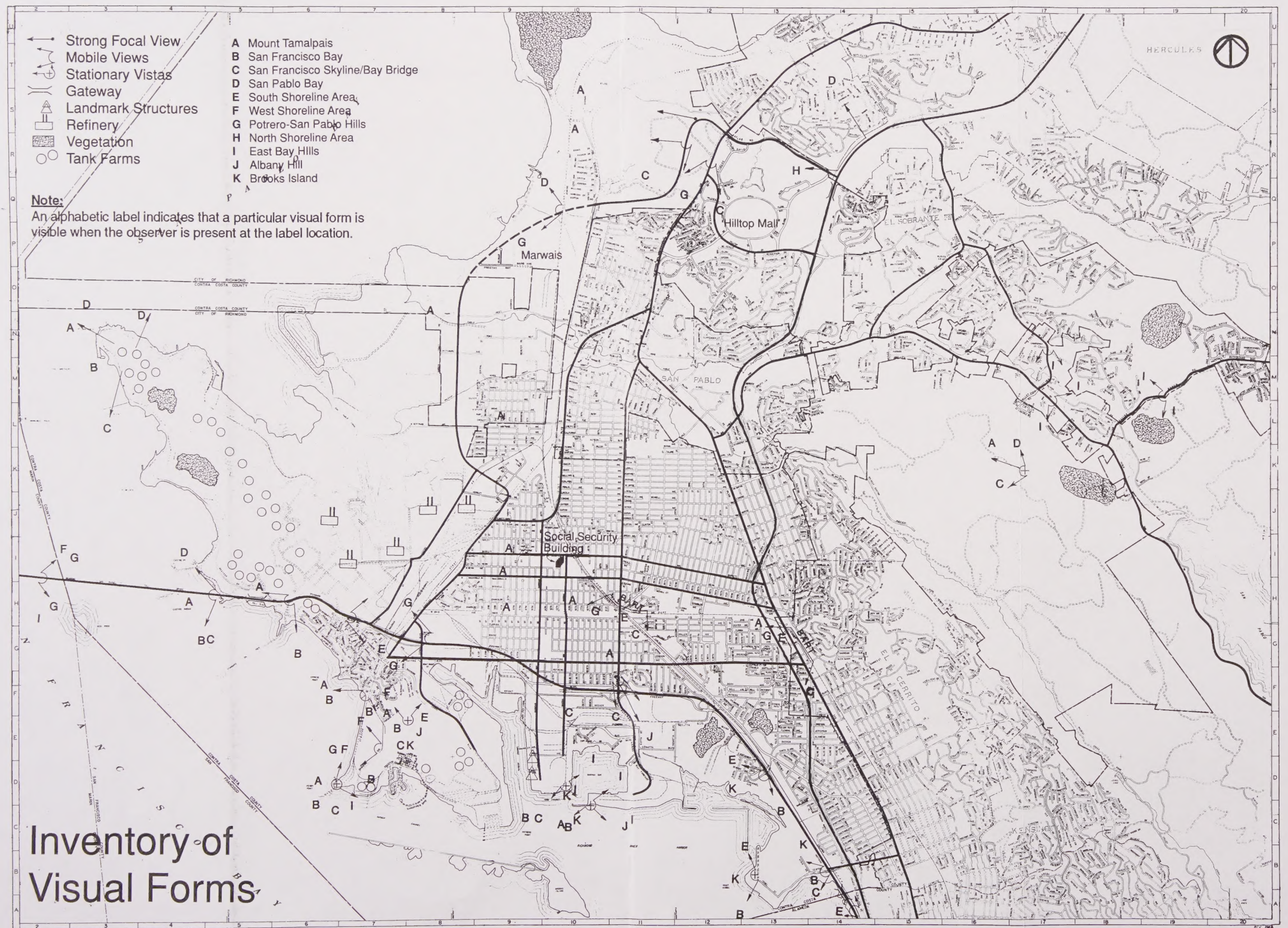
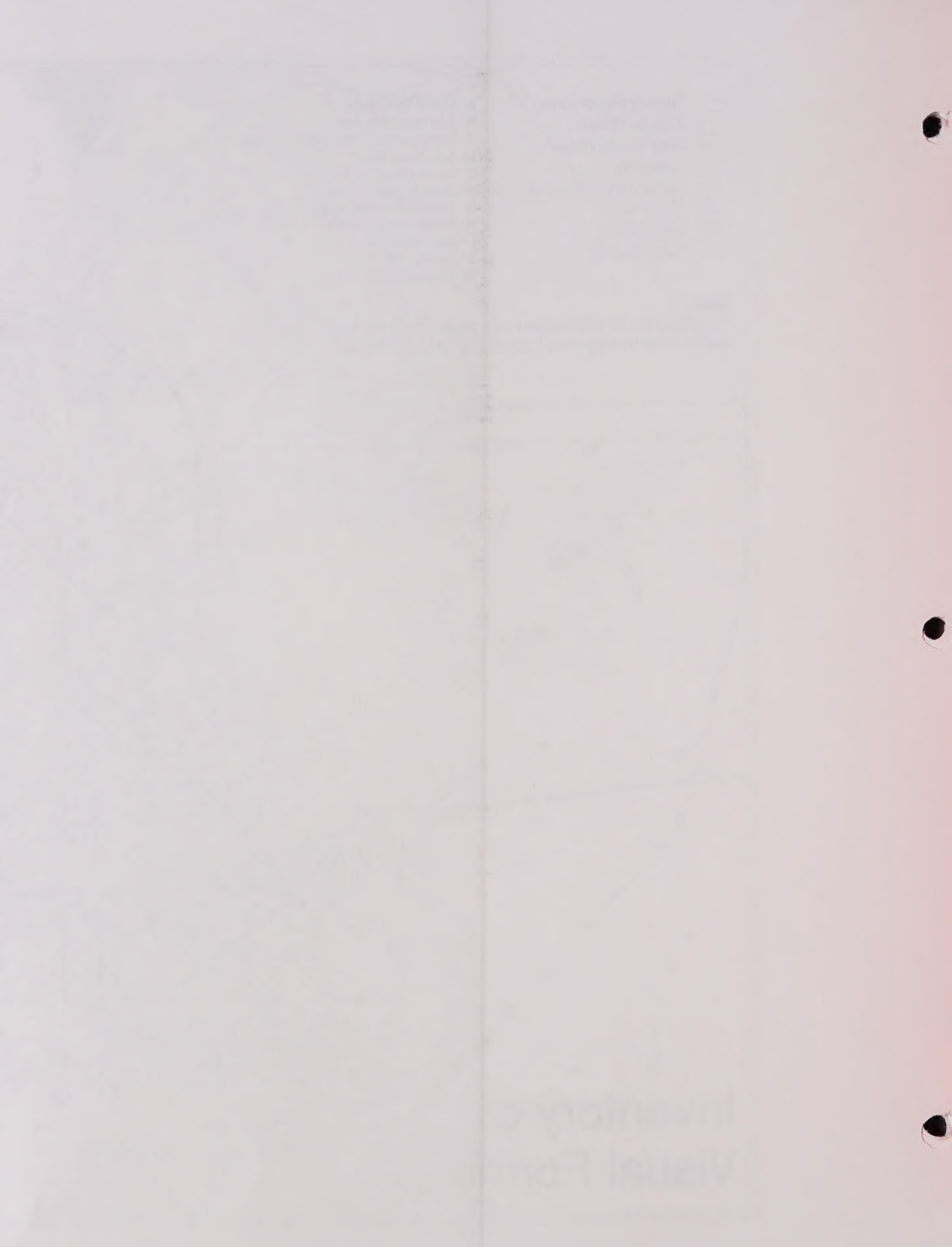
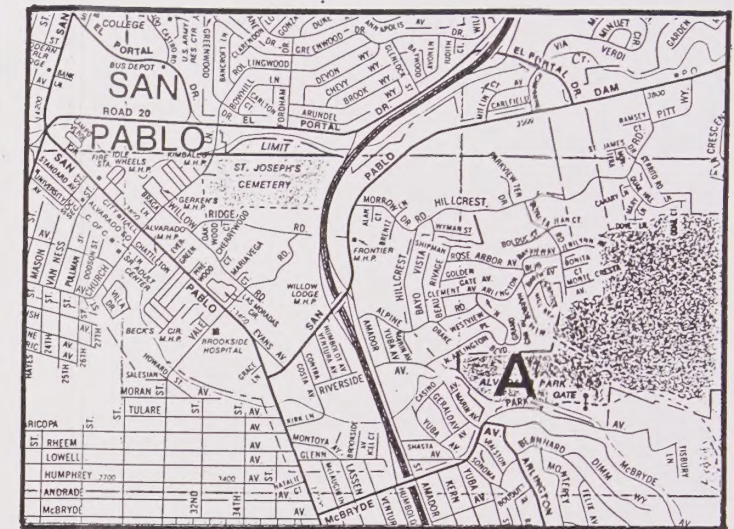
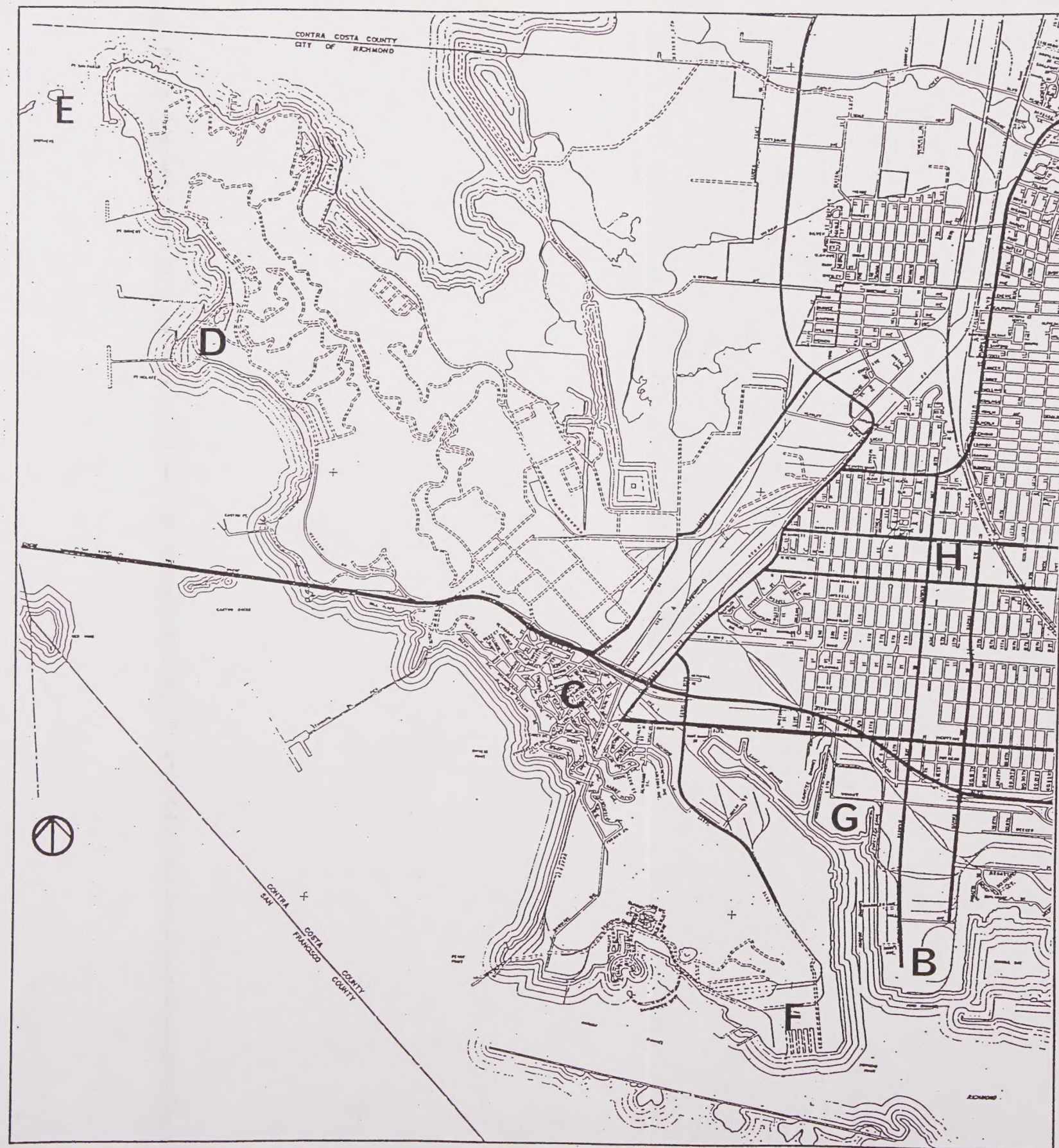


Figure C - 1



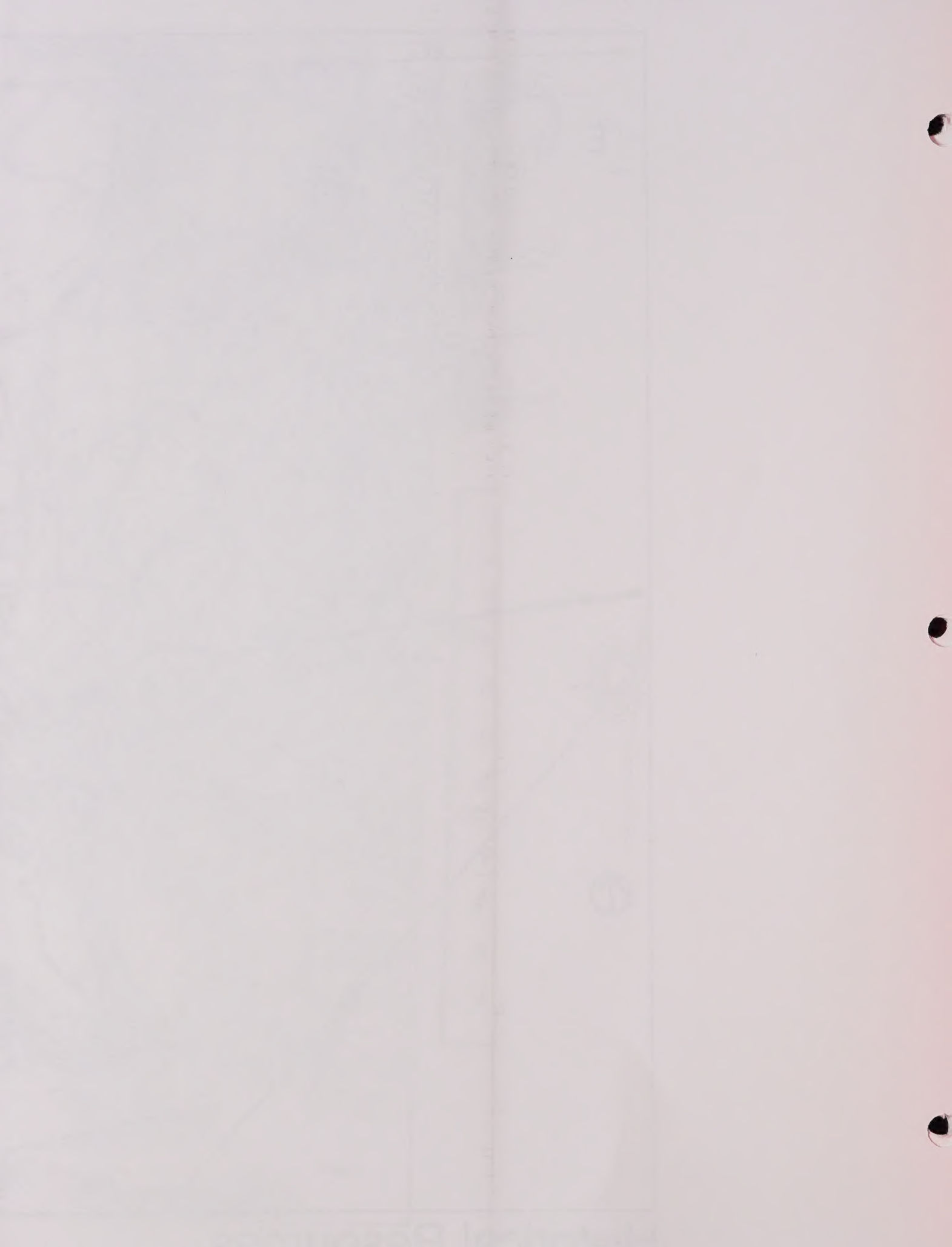


PROPERTIES LISTED IN THE NATIONAL REGISTER OF HISTORIC PLACES

- A Alvarado Park
- B Ford Motor Company Assembly Plant
- C Point Richmond Historic District
- D Winehaven
- E East Brother Island Light Station

PROPERTIES ELIGIBLE FOR NATIONAL REGISTER

- F Richmond Shipyard No. 3
- G Ellis Landing Site (approximate location)
- H Carquinez Hotel (Hotel Don)



NOTES:

- MAP 1.**
MAJOR TRANSPORTATION SYSTEMS
AND NOISE MEASUREMENT LOCATIONS
- NOTES:**
1. The results of the measured noise levels are provided in Table 5 of the 1991 Noise Element.
 2. Major transportation systems and noise barrier locations are shown on this map which were considered in the development of the Ldn noise contours.
 3. The future Richmond Parkway facility and BART's future service to the city of Crockett (Alternate 1) are shown on this map for reference and were considered in the 2010 noise assessments.
- CITY OF RICHMOND NOISE ELEMENT 1991**

CITY OF RICHMOND NOISE ELEMENT 1991

Figure C - 7

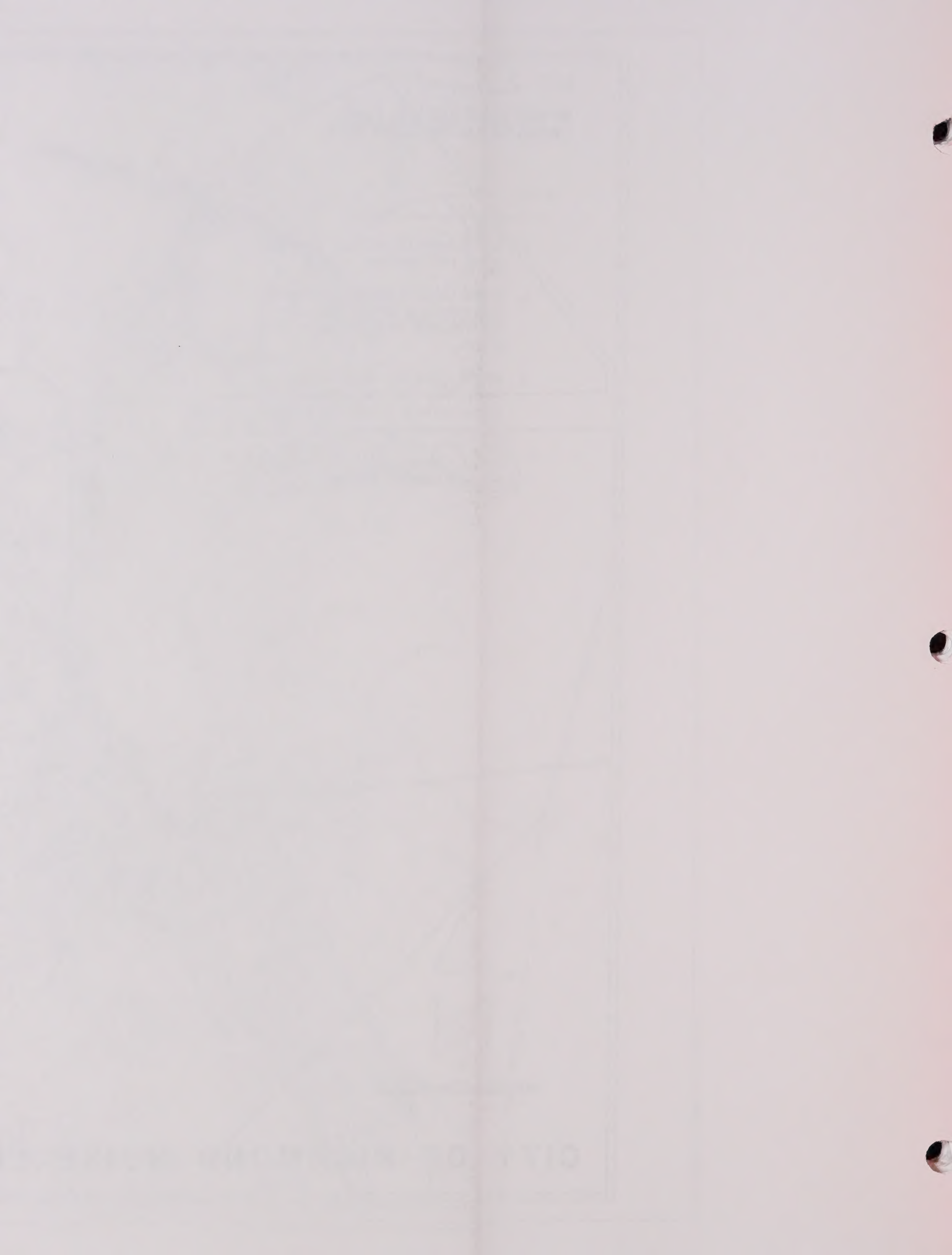
MAP 2.

DAY-NIGHT AVERAGE NOISE LEVEL (Ldn)
CONTOURS FOR YEAR 1990 ROADWAY TRAFFIC

NOTES:

1. The 1990 roadway Ldn contours are in A-weighted decibels, re:20 microPascals.
2. The noise contours do not take into account noise shielding provided by buildings, walls or other structures, except for the noise barriers identified on Map 5.
3. The 1990 roadway noise contours are based on the Highway Traffic Noise Prediction Model (FHWA-RD-77-108 developed by the Federal Highway Administration), traffic noise measurements and traffic data provided by state, county and local government agencies. The contours include corrections for "soft-site" ground effects and atmospheric absorption.

CITY OF RICHMOND NOISE ELEMENT 1991



MAP 3.

DAY-NIGHT AVERAGE NOISE LEVEL (Ldn)
CONTOURS FOR YEAR 2010 ROADWAY TRAFFIC

NOTES:

1. The 2010 roadway Ldn contours are in A-weighted decibels, re:20 microPascals.
2. The noise contours do not take into account noise shielding provided by buildings, walls or other structures, except for the noise barriers identified on Map 5.
3. The 2010 roadway noise contours are based on the Highway Traffic Noise Prediction Model (FHWA-RD-77-108 developed by the Federal Highway Administration), traffic noise measurements and traffic projections provided by state, county and local government agencies. The contours include corrections for "soft-site" ground effects and atmospheric absorption.

CITY OF RICHMOND NOISE ELEMENT 1991

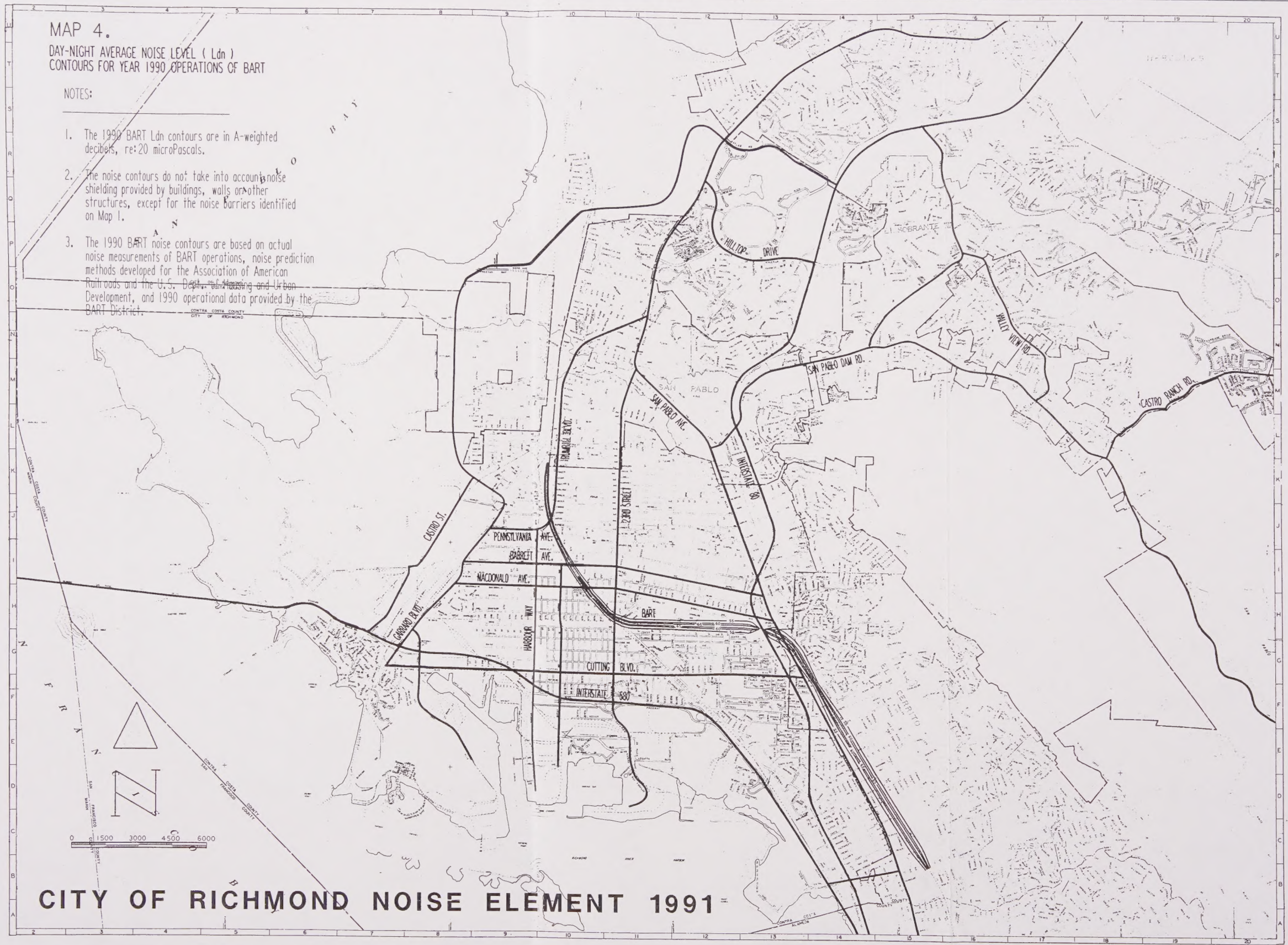
Figure C - 9

MAP 4.

DAY-NIGHT AVERAGE NOISE LEVEL (Ldn)
CONTOURS FOR YEAR 1990 OPERATIONS OF BART

NOTES:

1. The 1990 BART Ldn contours are in A-weighted decibels, re:20 microPascals.
2. The noise contours do not take into account noise shielding provided by buildings, walls or other structures, except for the noise barriers identified on Map 1.
3. The 1990 BART noise contours are based on actual noise measurements of BART operations, noise prediction methods developed for the Association of American Railroads and the U.S. Dept. of Housing and Urban Development, and 1990 operational data provided by the BART District.



CITY OF RICHMOND NOISE ELEMENT 1991

Figure C - 10



MAP 5a.

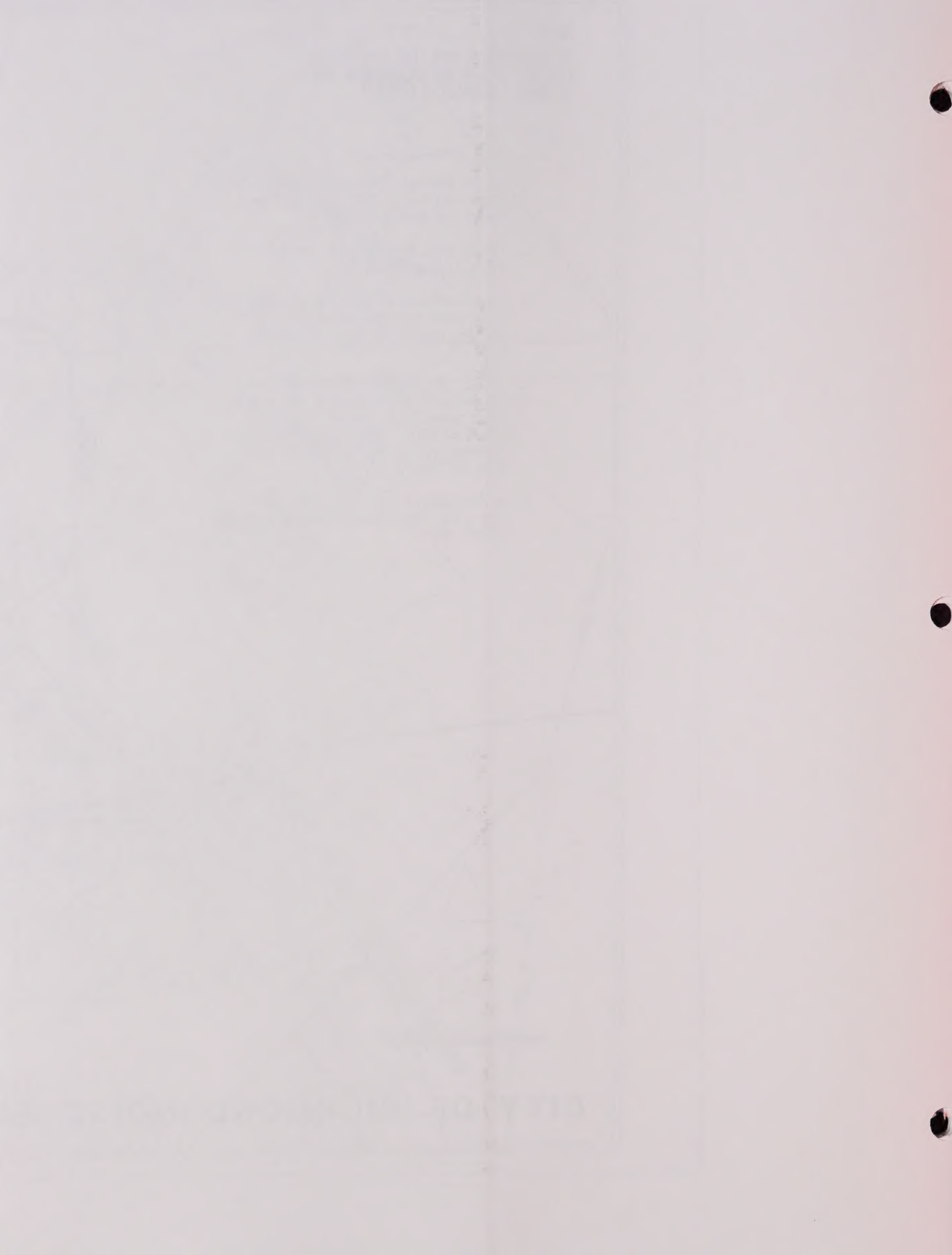
DAY-NIGHT AVERAGE NOISE LEVEL (Ldn)
CONTOURS FOR YEAR 2010 OPERATIONS OF BART
ALTERNATE 1 ALIGNMENT TO CROCKETT

NOTES:

1. The 2010 BART noise contours include the Alternate 1 alignment taken from the West Contra Costa Extension Alignment Study dated September 1991.
2. The 2010 BART Ldn contours are in A-weighted decibels, re:20 microPascals.
3. The noise contours do not take into account noise shielding provided by buildings, walls or other structures, except for the noise barriers identified on Map 1.
4. The 2010 BART noise contours are based on actual noise measurements of BART operations, noise prediction methods developed for the Association of American Railroads and the U.S. Dept. of Housing and Urban Development, and 2010 operational projections provided by the BART District.
5. Narrower contours are due to less operations and slower speeds. Wider contours are due to more operations and faster speeds.

CITY OF RICHMOND NOISE ELEMENT 1991

Figure C - 11

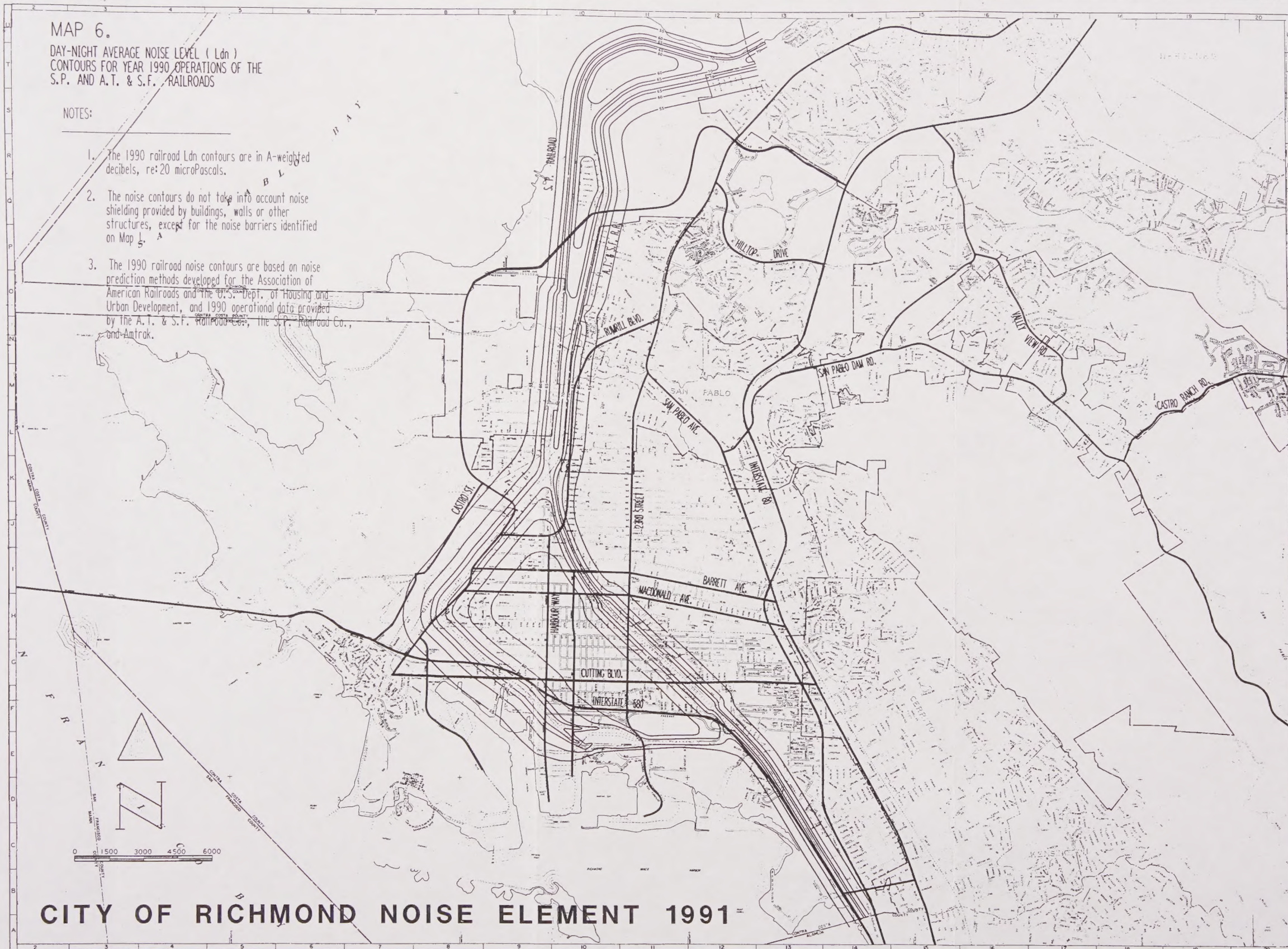


MAP 6.

DAY-NIGHT AVERAGE NOISE LEVEL (Ldn)
CONTOURS FOR YEAR 1990 OPERATIONS OF THE
S.P. AND A.T. & S.F. RAILROADS

NOTES:

1. The 1990 railroad Ldn contours are in A-weighted decibels, re:20 microPascals.
2. The noise contours do not take into account noise shielding provided by buildings, walls or other structures, except for the noise barriers identified on Map 5.
3. The 1990 railroad noise contours are based on noise prediction methods developed for the Association of American Railroads and the U.S. Dept. of Housing and Urban Development, and 1990 operational data provided by the A.T. & S.F. Railroad Co., The S.P. Railroad Co., and Amtrak.



CITY OF RICHMOND NOISE ELEMENT 1991

Figure C - 12

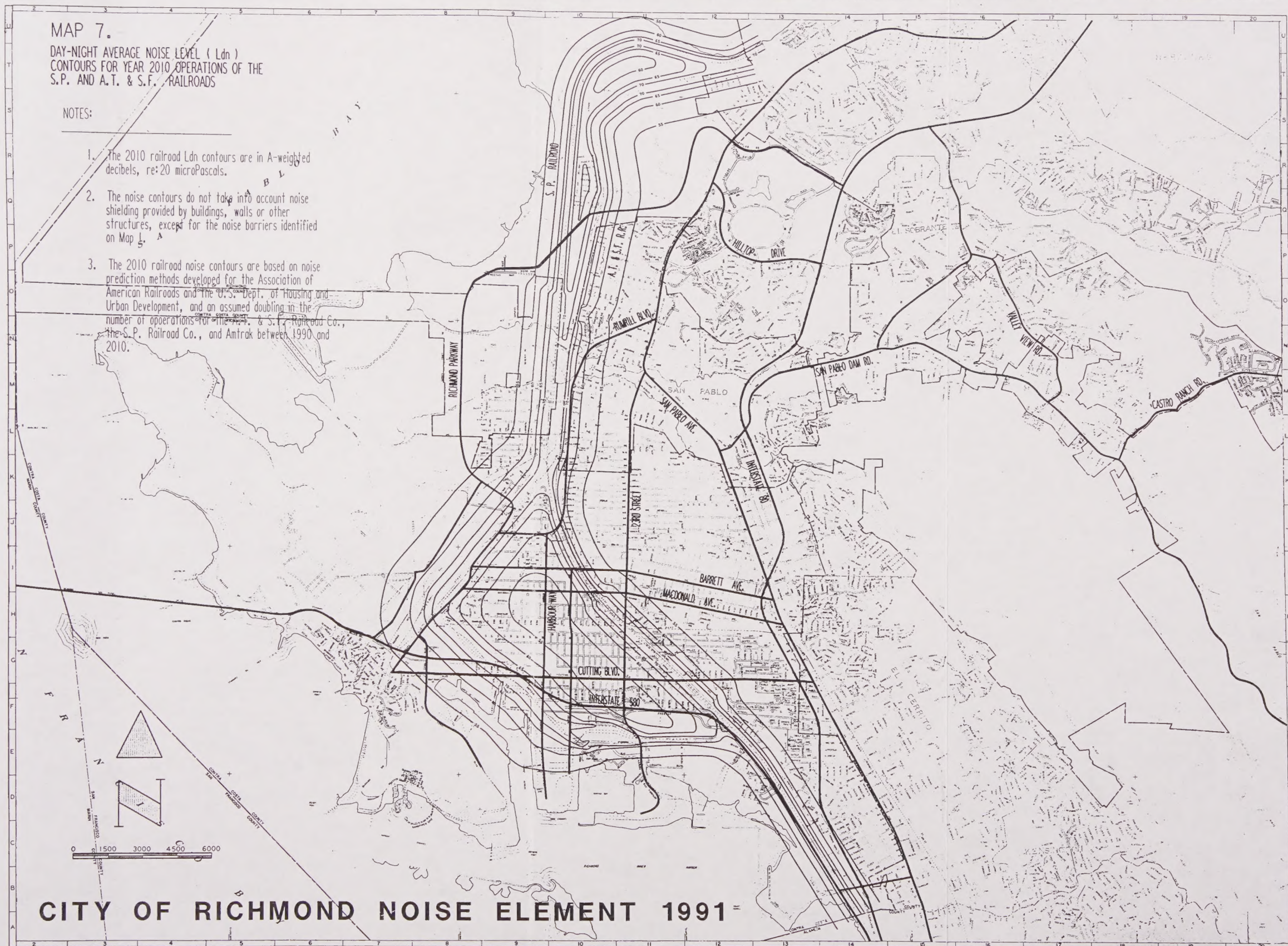


MAP 7.

DAY-NIGHT AVERAGE NOISE LEVEL (Ldn)
CONTOURS FOR YEAR 2010 OPERATIONS OF THE
S.P. AND A.T. & S.F. RAILROADS

NOTES:

1. The 2010 railroad Ldn contours are in A-weighted decibels, re:20 microPascals.
2. The noise contours do not take into account noise shielding provided by buildings, walls or other structures, except for the noise barriers identified on Map 5.
3. The 2010 railroad noise contours are based on noise prediction methods developed for the Association of American Railroads and the U.S. Dept. of Housing and Urban Development, and an assumed doubling in the number of operations for the A.T. & S.F. Railroad Co., the S.P. Railroad Co., and Amtrak between 1990 and 2010.



CITY OF RICHMOND NOISE ELEMENT 1991

Figure C - 13

SECTION D

SURVEY OF POPULATION AND HOUSING

The demographic, economic and social characteristics of a community dictate its housing, social services, employment and public facilities needs. (Demography is "the statistical study of human populations especially with reference to size and density, distribution, and vital statistics.")

The characteristics of the local population have an important bearing on all aspects of the General Plan goals, standards, and policies. They set the "human framework" for the entire General Plan document.

This Section includes a description of the current residents of Richmond: total and projected population figures, ethnic composition, and age of residents. An assessment of the current housing stock follows which includes: housing conditions, the number of substandard units, maintenance and rehabilitation needs, current vacancy rates, and an inventory of land suitable for residential development. Subgroups of the population and their special housing needs are identified and discussed. The opportunities and constraints the city faces in meeting its housing goals are outlined. Housing production vs. objectives in Richmond for the 1985-90 period is evaluated. Finally, the Section includes an analysis of assisted housing units at risk of converting to non-low income use.

DEFINITIONS

Definition of Affordable Housing

In the Richmond Housing Element affordable housing is defined as housing that can be purchased or rented by a household with Very Low or Low Income (i.e. 80% or less of the area median income) and paying no more than 30% of its gross monthly income for housing, including taxes, insurance and utilities.

Definition of Income Categories

Above

Moderate: greater than 120% of the area median household income

Moderate: 81% to 120% of the area median household income

Low: 51% to 80% of the area median household income

Very Low: 50% or less of the area median household income

"Area median" is defined as the current U.S Department of Housing and Urban Development (HUD) area median household income limits for Contra Costa County. As of May 1994 these were:

<u>Number of Persons In Family</u>	<u>Area Median Income</u>
1	\$ 38,700
2	\$ 44,250
3	\$ 49,750
4	\$ 55,300
5	\$ 59,700
6	\$ 64,150
7	\$ 68,550
8	\$ 73,000

Based on the definition of income limits and the area median income, the income limits for Very Low Income, Low Income, and Moderate Income families are described in the following table:

COUNTY	STANDARD	NUMBER OF PERSONS IN FAMILY							
		1	2	3	4	5	6	7	8
CONTRA COSTA	Very low income	\$19350	22100	24900	27650	29850	32050	34300	36500
Area median:	Lower income	\$27950	31900	35900	39900	43100	46300	49500	52650
\$55,300	Median income	\$38700	44250	49750	55300	59700	64150	68550	73000
	Moderate income	\$46450	53100	59700	66350	71650	76950	82250	87600

Based on these income limits, how much can a family of 1, 2, 3, or 4 persons afford in terms of monthly rent payment, or cost of housing in the case of homebuyers?

For illustration purposes this is described in the following table. The upper limits shown in the table:

- are rough estimates only, for illustration purposes;
- are based on the current HUD income limits for Contra Costa County as of May 1994;
- assume that 30% of gross monthly income is being spent on housing including taxes, insurance and utilities;
- represent (in the case of rentals) the maximum affordable rent payment after deducting estimated cost of utilities; and
- assume (in the case of home purchase) a 10% down, 30-year mortgage at 8% fixed rate interest.

The maximum home purchase amounts ("purchase home up to") shown in the table are based on the maximum mortgage payment families can afford after deducting estimated costs of taxes, insurance, and utilities.

UPPER LIMITS OF INCOME AND AFFORDABILITY
FOR HOME PURCHASE OR RENTAL:
CONTRA COSTA COUNTY 1994 - BY INCOME CATEGORY

Income Category # Bedrooms	FAMILY SIZE			
	1 Person -1-	2 Persons -1-	3 Persons -2-	4 Persons -3-
VERY LOW: Income	\$19,350	\$22,100	\$24,900	\$27,650
Rent up to:	\$ 394	\$ 463	\$ 533	\$ 561
Purchase				
Home* up to:	\$51,300	\$58,600	\$66,000	\$78,200
LOW: Income	\$27,950	\$31,900	\$35,900	\$39,900
Rent up to:	\$ 609	\$ 708	\$ 808	\$ 868
Purchase				
Home* up to:	\$79,000	\$90,200	\$101,500	\$112,800
MODERATE: Income	\$46,450	\$53,100	\$59,700	\$66,350
Rent up to:	\$ 1,071	\$ 1,238	\$ 1,403	\$ 1,529
Purchase				
Home* up to:	\$131,800	\$150,600	\$169,300	\$193,000

ABOVE MODERATE: INCOME, RENT, AND PURCHASE AMOUNTS ARE ABOVE
THE UPPER LIMITS FOR "MODERATE"

* Assumes 10% down, 30-year mortgage at 8% fixed rate.

Example (using above Table):

Four-person families in the Low Income category will have household incomes between \$27,650 and \$39,900; can afford rent payments between \$561 and \$868 a month (utilities separate) depending on their household income; and can afford to make payments on a home costing between \$78,200 and \$112,800 in value depending on their household income, and assuming a 10% down, 30-year mortgage at 8% fixed interest rate.

Note: Very Low and Low Income families with some form of subsidy may be able to afford rents or purchase homes in amounts greater than shown on the above Table.

Summary of Home Sales and Prices in Richmond in 1989*

Total Sales: 1710
Lowest Price: \$50,000
Highest Price: \$589,900
Median Price: \$149,900
Average Price: \$168,866

* Data not available for years after 1989.

Source: REM Associates, Walnut Creek; quoted in West County Times, January 28, 1990.

POPULATION CHARACTERISTICS

Total Population

Richmond's population in 1990 was 87,425, according to the 1990 U.S. Census. This represents the "official" population figure of Richmond, and will remain so until the next U.S. Census. The City's population in January 1992 was estimated at 92,594 by the State Department of Finance (DOF).

The 1980 population was 74,676 according to the 1980 U.S. Census. The City's population, therefore, increased by 12,749 persons - a 17.1% increase in the 10 years from 1980 to 1990. Richmond's population had actually decreased by 6% during the previous ten years from 1970 (when the population was 79,043) to 1980 (74,676).

Richmond's 1990 household population (total persons living in households, as opposed to group quarters) was 86,281 and the total number of households (i.e. occupied housing units) was 32,749, or an average of 2.63 persons per household. The City's population in group quarters in 1990 was 1,144 persons. The total persons in group quarters plus the total persons living in households equals the total population of the City.

Population Trends Since 1980

Steady Increase in Population. Richmond's population has been rising steadily each year since 1980. The latest (1992) estimate indicates that this trend is continuing even beyond 1990, the latest official population count.

Household Size. Average household size (average number of persons per household) in Richmond stayed approximately the same from 1980 to 1990. Richmond's average household size in 1990 was 2.634, rounded to 2.63 persons per household (total household population divided by total households). In 1980 the figure was 2.637, rounded to 2.64 persons per household.

Increase in New Residential Construction. Richmond's steady population rise since 1980 is primarily due to the large number of new homes that have been built -- principally in the El Sobrante, Hilltop, Brickyard Cove, and Marina Bay areas. (See Addendum 1 to this Section.)

A total of 6,519 net new housing units were added to the Richmond's housing stock in the 12 year period from January 1980 through December 1991. This is an average of 543 additional units per year.

According to the 1990 Census, Richmond had a total of 34,532 housing units in April 1990 -- an increase of 5450 units since 1980. This is an 18.7% increase in the size of the City's housing

stock in 10 years from the 1980 total of 29,082 units. (See "Housing Characteristics" later in this Section, for more detailed data on Richmond's housing stock increase since 1980.)

Population Growth Projections

Future population growth projections for Richmond and its Sphere-of-Influence Area have been made by the Association of Bay Area Governments (ABAG), the metropolitan planning agency for the nine-county San Francisco Bay Area. The projections are contained in a study called Projections 90.

The population of the Richmond Sphere-of-Influence Area (City of Richmond and adjacent unincorporated areas in North Richmond, El Sobrante and East Richmond Heights) is projected to increase from 98,800 persons in 1990 to 104,600 in 1995 and to 105,700 by the year 2000, and then leveling off at 105,600 by the year 2005. (See Table D-1.)

According to ABAG the most rapid period of population growth in the Richmond area will be during the ten years from 1985 to 1995. ABAG estimates that the population increase from 1985 to 1990 was 7500, and forecasts a further increase of 5800 persons from 1990 to 1995. After 1995 ABAG sees a leveling-off, apparently as a result of physical buildout and declining household size.

On the following pages are tables from Projections 90 with ABAG's population, household size, and income projections for Richmond and other subregional areas in Contra Costa County, for each 5-year increment between 1980 and 2005.

TABLE D-1
TOTAL POPULATION

SUBREGIONAL AREA	1980	1985	1990	1995	2000	2005
ANTIOCH**	44,195	49,200	60,400	75,200	89,800	101,300
BRENTWOOD**	6,785	7,300	9,300	13,600	22,700	28,400
CLAYTON**	7,154	7,400	8,400	10,800	11,300	11,700
CONCORD**	106,102	108,100	112,400	117,900	123,400	123,800
DANVILLE**	29,479	31,300	36,300	39,200	41,700	43,900
EL CERRITO**	28,717	28,700	29,000	28,600	27,800	27,800
HERCULES**	6,826	9,600	16,500	18,300	19,600	21,400
LAFAYETTE**	24,003	23,600	23,700	23,900	24,000	23,800
MARTINEZ**	30,822	35,800	39,200	41,500	42,300	42,000
MORAGA**	15,214	15,400	16,500	17,400	17,900	18,100
ORINDA**	16,223	16,300	16,900	16,900	16,300	16,200
PINOLE**	24,334	24,500	27,200	27,200	26,500	26,900
PITTSBURG**	43,843	51,500	62,700	71,000	73,700	75,600
PLEASANT HILL**	30,089	32,500	36,000	37,800	37,700	37,600
RICHMOND**	88,889	91,300	98,800	104,600	105,700	105,600
SAN PABLO**	23,010	24,900	24,900	24,900	24,400	24,200
SAN RAMON****	20,245	26,400	35,700	46,300	53,200	55,600
WALNUT CREEK**	70,544	73,000	75,900	77,600	79,300	80,500
ALAMO-BLACKHAWK****	10,413	13,700	19,000	21,100	21,700	22,300
RODEO-CROCKETT****	11,055	11,600	11,300	11,100	10,900	10,800
RURAL EAST C. C. CO.****	14,056	19,400	24,600	30,100	36,300	42,000
REMAINDER	4,382	4,750	5,300	6,000	6,800	7,400
CONTRA COSTA	656,380	706,250	790,000	861,000	913,000	946,900

* City

** City Sphere of Influence

*** Urban Service

**** Other Subregional Area

TABLE D-2
HOUSEHOLD POPULATION

SUBREGIONAL AREA	1980	1985	1990	1995	2000	2005
ANTIOCH**	43,957	49,000	60,100	74,900	89,400	100,800
BRENTWOOD**	6,717	7,200	9,200	13,500	22,500	28,200
CLAYTON**	7,154	7,400	8,400	10,800	11,300	11,700
CONCORD**	105,167	107,000	111,200	116,400	121,900	122,200
DANVILLE**	29,385	31,200	36,200	38,900	41,500	43,700
EL CERRITO**	28,661	28,700	28,900	28,500	27,700	27,700
HERCULES**	6,826	9,600	16,500	18,300	19,600	21,400
LAFAYETTE**	23,785	23,400	23,500	23,600	23,700	23,600
MARTINEZ**	30,259	35,000	38,200	40,400	41,000	40,800
MORAGA**	14,374	14,300	15,100	16,000	16,500	16,600
ORINDA**	16,169	16,300	16,700	16,600	16,100	15,900
PINOLE**	24,321	24,400	27,100	27,000	26,400	26,800
PITTSBURG**	43,756	51,300	62,400	70,600	73,200	75,200
PLEASANT HILL**	29,617	32,000	35,500	37,200	37,000	36,900
RICHMOND**	88,325	90,700	98,100	103,700	104,800	104,700
SAN PABLO**	22,615	24,400	24,400	24,300	23,700	23,600
SAN RAMON****	20,214	26,300	35,600	46,300	53,100	55,500
WALNUT CREEK**	69,680	71,900	74,900	76,400	78,100	79,300
ALAMO-BLACKHAWK****	10,215	13,400	18,700	20,800	21,400	22,000
RODEO-CROCKETT****	11,017	11,500	11,200	11,000	10,800	10,800
RURAL EAST C. C. CO.****	13,910	19,100	24,400	29,900	36,100	41,800
REMAINDER	3,472	3,900	4,350	4,950	5,600	6,200
CONTRA COSTA	649,596	698,000	780,650	850,050	901,400	935,400

* City

** City Sphere of Influence

*** Urban Service

**** Other Subregional Area

TABLE D-3
HOUSEHOLDS

SUBREGIONAL AREA	1980	1985	1990	1995	2000	2005
ANTIOCH**	15,543	17,490	22,030	27,960	34,520	39,390
BRENTWOOD**	2,233	2,440	3,220	4,910	8,570	10,980
CLAYTON**	2,205	2,370	2,840	3,660	3,980	4,140
CONCORD**	38,903	40,720	44,150	46,540	49,880	50,300
DANVILLE**	9,455	10,540	12,520	13,670	15,070	15,930
EL CERRITO**	12,174	12,360	12,790	12,830	12,840	12,880
HERCULES**	2,099	3,010	5,300	5,990	6,680	7,360
LAFAYETTE**	8,878	8,950	9,310	9,570	9,790	9,910
MARTINEZ**	11,405	13,510	15,280	16,280	16,960	17,060
MORAGA**	5,047	5,190	5,690	6,170	6,560	6,700
ORINDA**	5,798	5,910	6,320	6,470	6,520	6,520
PINOLE**	8,051	8,370	9,660	9,980	10,120	10,310
PITTSBURG**	15,207	17,930	22,680	26,150	27,750	28,690
PLEASANT HILL**	11,695	13,070	15,130	16,040	16,370	16,400
RICHMOND**	33,621	34,730	38,630	41,650	44,210	44,550
SAN PABLO**	9,097	9,890	10,200	10,210	10,280	10,290
SAN RAMON****	6,393	8,510	12,160	16,120	19,240	20,250
WALNUT CREEK**	30,057	31,550	34,180	35,220	36,670	37,400
ALAMO-BLACKHAWK****	3,339	4,490	6,430	7,210	7,670	7,980
RODEO-CROCKETT****	4,061	4,300	4,350	4,370	4,410	4,430
RURAL EAST C. C. CO.****	5,078	7,060	9,230	11,530	14,430	16,910
REMAINDER	1,195	1,370	1,590	1,860	2,180	2,410

CONTRA COSTA	241,534	263,760	303,690	334,390	364,700	380,790
--------------	---------	---------	---------	---------	---------	---------

* City

** City Sphere of Influence

*** Urban Service

**** Other Subregional Area

TABLE D-4
PERSONS PER HOUSEHOLD

SUBREGIONAL AREA	1980	1985	1990	1995	2000	2005
ANTIOCH**	2.82	2.79	2.72	2.67	2.58	2.56
BRENTWOOD**	3.00	2.96	2.85	2.75	2.63	2.57
CLAYTON**	3.24	3.12	2.97	2.94	2.85	2.82
CONCORD**	2.70	2.62	2.52	2.50	2.44	2.43
DANVILLE**	3.10	2.95	2.89	2.84	2.75	2.73
EL CERRITO**	2.35	2.31	2.26	2.22	2.15	2.14
HERCULES**	3.25	3.19	3.11	3.04	2.92	2.91
LAFAYETTE**	2.67	2.61	2.52	2.47	2.41	2.37
MARTINEZ**	2.65	2.58	2.50	2.46	2.42	2.38
MORAGA**	2.84	2.75	2.64	2.59	2.51	2.48
ORINDA**	2.78	2.75	2.63	2.56	2.46	2.44
PINOLE**	3.02	2.91	2.79	2.71	2.60	2.59
PITTSBURG**	2.87	2.85	2.74	2.70	2.63	2.61
PLEASANT HILL**	2.53	2.44	2.34	2.31	2.25	2.25
RICHMOND**	2.62	2.60	2.54	2.48	2.36	2.35
SAN PABLO**	2.48	2.46	2.39	2.37	2.31	2.29
SAN RAMON****	3.16	3.08	2.93	2.86	2.76	2.74
WALNUT CREEK**	2.31	2.28	2.19	2.16	2.12	2.12
ALAMO-BLACKHAWK****	3.05	2.98	2.91	2.89	2.78	2.75
RODEO-CROCKETT****	2.71	2.67	2.57	2.52	2.44	2.42
RURAL EAST C. C. CO.****	2.73	2.70	2.63	2.59	2.50	2.47
REMAINDER	2.90	2.83	2.71	2.65	2.58	2.55

CONTRA COSTA	2.69	2.65	2.57	2.54	2.47	2.46
--------------	------	------	------	------	------	------

* City

** City Sphere of Influence

*** Urban Service

**** Other Subregional Area

**TABLE D-5
MEAN HOUSEHOLD INCOME**

SUBREGIONAL AREA	1980	1985	1990	1995	2000	2005
ANTIOCH**	36,011	39,100	43,100	46,600	49,500	52,500
BRENTWOOD**	35,203	38,600	41,100	44,200	47,900	50,600
CLAYTON**	56,791	60,300	62,000	67,100	67,400	71,700
CONCORD**	39,604	42,600	44,200	47,200	49,000	52,100
DANVILLE**	68,537	73,200	76,500	79,800	83,700	87,700
EL CERRITO**	44,637	47,200	49,100	51,300	52,700	55,500
HERCULES**	51,280	56,400	59,600	64,000	64,200	65,400
LAFAYETTE**	61,491	66,100	68,200	71,700	73,300	78,000
MARTINEZ**	40,815	44,700	46,100	49,300	50,000	53,700
MORAGA**	65,950	69,700	72,000	76,100	78,300	81,800
ORINDA**	80,562	84,900	91,300	94,200	95,900	101,800
PINOLE**	43,362	47,100	49,400	51,800	52,200	55,600
PITTSBURG**	30,756	33,800	35,400	37,100	37,900	40,700
PLEASANT HILL**	41,187	44,500	47,000	48,500	49,300	52,600
RICHMOND**	31,045	33,900	36,200	39,100	40,100	42,600
SAN PABLO**	26,331	28,500	29,200	30,100	31,400	33,400
SAN RAMON****	54,088	59,400	67,000	70,300	72,800	75,500
WALNUT CREEK**	48,421	51,300	53,300	55,200	57,500	61,300
ALAMO-BLACKHAWK****	83,716	87,000	91,500	96,300	100,600	106,700
RODEO-CROCKETT****	36,582	38,800	39,500	41,700	42,300	45,800
RURAL EAST C. C. CO.****	35,901	41,300	45,100	49,300	52,000	56,000
REMAINDER	63,973	67,400	69,800	74,200	76,900	83,300
CONTRA COSTA	43,407	46,800	49,600	52,400	54,200	57,500

* City

** City Sphere of Influence

*** Urban Service

**** Other Subregional Area

**TABLE D-6
POPULATION BY AGE AND SEX
CONTRA COSTA COUNTY**

Age	April 1, 1980			April 1, 1985			April 1, 1990		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	22,421	21,614	44,035	24,500	23,200	47,700	26,900	25,500	52,400
5-9	23,649	22,089	45,738	24,500	23,200	47,700	27,100	26,000	53,100
10-14	27,580	26,664	54,244	25,800	24,400	50,200	26,900	25,500	52,400
15-19	30,136	29,752	59,888	27,600	27,100	54,700	26,800	26,200	53,000
20-24	26,400	26,335	52,735	29,000	28,800	57,800	29,500	29,500	59,000
25-34	54,357	57,943	112,300	59,400	61,200	120,600	67,300	69,800	137,100
35-44	43,936	45,596	89,532	52,500	54,100	106,600	63,000	64,400	127,400
45-54	35,385	36,529	71,914	41,000	42,100	83,100	49,400	50,100	99,500
55-59	17,771	18,987	36,758	18,400	19,300	37,700	21,200	21,900	43,100
60-64	13,588	14,804	28,392	15,200	16,300	31,500	17,000	17,800	34,800
65+	24,875	35,969	60,844	29,400	39,300	68,700	33,800	44,600	78,400
Total	320,098	336,282	656,380	347,300	359,000	706,300	388,900	401,300	790,200
Median	30.13	31.80	31.00	31.67	33.15	32.42	33.07	34.24	33.67

Age	April 1, 1995			April 1, 2000			April 1, 2005		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	28,500	27,000	55,500	29,000	27,500	56,500	29,000	27,400	56,400
5-9	29,000	27,900	56,900	30,000	28,900	58,900	30,100	28,900	59,000
10-14	28,500	27,300	55,800	29,900	28,700	58,600	30,500	29,300	59,800
15-19	27,200	26,700	53,900	28,400	27,900	56,300	29,500	29,000	58,500
20-24	29,200	29,300	58,500	29,100	29,300	58,400	29,600	29,700	59,300
25-34	69,700	72,900	142,600	68,000	71,300	139,300	65,500	68,600	134,100
35-44	71,700	73,200	144,900	76,200	78,300	154,500	76,500	79,300	155,800
45-54	57,900	58,500	116,400	65,400	66,100	131,500	70,200	71,600	141,800
55-59	24,700	25,300	50,000	28,400	29,000	57,400	31,600	32,500	64,100
60-64	19,400	20,000	39,400	22,400	23,000	45,400	25,300	26,200	51,500
65+	37,800	49,300	87,100	42,300	53,800	96,100	47,700	58,900	106,600
Total	423,600	437,400	861,000	449,100	463,800	912,900	465,500	481,400	946,900
Median	34.46	35.53	35.00	35.83	36.84	36.34	36.92	38.00	37.47

Household Income

Household income figures from the 1990 U.S. Census were still not available as of March 1992 when this Section was written. The 1979 median household income in Richmond, according to the 1980 U.S. Census, was \$15,597, compared to \$8,778 in 1970. When adjusted to 1982 dollars to reflect inflation and compare with 1979 levels, Richmond's 1970 median household income was \$23,897 and the 1979 income was \$21,804 -- representing a net drop of 8.8% between 1970 and 1979.

In Contra Costa County, the unadjusted 1979 median household income was \$22,875, almost 50% higher than Richmond's. The adjusted county figure (using 1982 dollars) for 1970 is \$29,920 and for 1979 \$31,978, or a net increase of 6.9% between 1970 and 1979.

The following chart outlines the definitions of the income categories used in this Subsection. Note that elsewhere, the most recent (April 1991) HUD income limits are used. The definition of each income category related to Median Income, however, is unchanged.

<u>Income Category</u>	<u>% of Median Income *</u>	<u>1980 Annual Income</u>
Poverty Level		\$7,356 and below
Very Low Income	Below 50%	Below \$11,700
Low Income	Between 50-80%	\$11,700-\$18,720
Lower Income	Below 80%	Below \$18,720
Moderate Income	Between 80-120%	\$18,720-\$28,080
Upper Income	Above 120%	Above \$28,080

* Median income for the 9 counties of the SF-Oakland Bay Area was \$23,400 per year, for a family of four in 1980.

Source: U.S. Department of Housing and Urban Development, San Francisco Area Office.

Below Poverty Level. Poverty level in 1980 was defined as less than \$7,356 annual income for a four person family. Of the City's 19,727 families in 1980, 2,931 or 14.8% of all families earned below poverty level incomes. This represented an increase from 1970 when 10% of all families were living in poverty.

The percentage of families having an income below the poverty level was highest in the following six subareas (See Map, next page):

- Iron Triangle (31.3%) - Census Tracts 3760 and 3770;
- Southside (30.6%) - Census Tracts 3790 and 3800;
- North Richmond/
Parchester (23.8%) - Census Tracts 3650.01 and 3650.02;
- Pullman Plaza (22.2%) - Census Tract 3810;
- Eastshore (17.5%) - Census Tract 3820; and
- Belding Woods (16.3%) - Census Tracts 3730 and 3750.

Figure D-1 - CENSUS TRACT MAP - WEST HALF

CITY OF RICHMOND

CENSUS TRACTS AND NEIGHBORHOODS *

CENSUS TRACTS —————

NEIGHBORHOODS

BASE MAP: CITY OF RICHMOND, JULY 1987

0 2000 4000 FEET



* U.S. CENSUS BUREAU NEIGHBORHOOD STATISTICS PROGRAM

CITY OF RICHMOND
CONTRA COSTA COUNTY

CONTRA COSTA COUNTY
CITY OF RICHMOND

PARCHESTER

3650.01

3660

3672

SAN PABLO

3650.02

3680

3690

NORTH RICHMOND

DELIDING

NORTH & EAST

IRON TRIANGLE

NORTH

WOODS

NORTH & EAST

3780

IRON TRIANGLE

SOUTH

3730

3720

ATCHISON

VILLAGE

3750

3740

NICHOLL PARK

SANTA FE

3780

3810

POINT RICHMOND

CORONADO

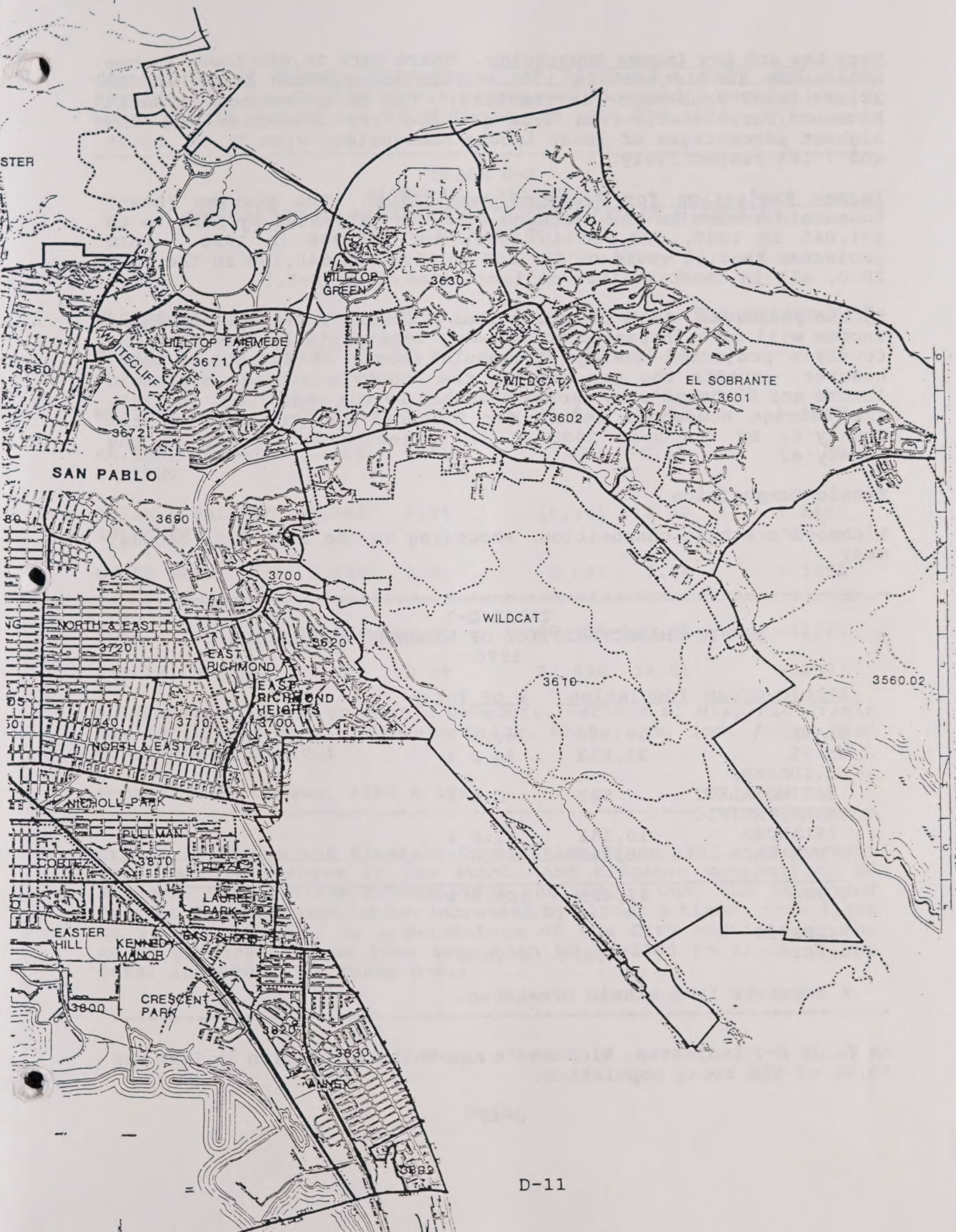
3840

EASTER HILL

KENNEDY MANOR

CRESO PARK

Figure D-2 - CENSUS TRACT MAP - EAST HALF



Very Low and Low Income Households. There were 16,682 lower income households in Richmond in 1980. This constituted 59.0% of the 28,107 total households in the City. The neighborhoods of North Richmond/Parchester, Iron Triangle and the Southside had the highest percentages of lower income households, with 71.0%, 81.2% and 72.6% respectively.

Income Projection for Richmond Population. The average (mean) household income in the Richmond area was estimated by ABAG to be \$31,045 in 1980, \$33,900 in 1985, and \$36,200 in 1990. ABAG projected that it would be \$39,100 in 1995 and \$40,100 in the year 2000, all in constant 1988 dollars. (See Table D-5.)

By the year 2005, ABAG forecasts that Richmond's average household income will have increased to \$42,600, substantially less than the County's projected average household income of \$57,500. ABAG, however, expects the gap between the County's average household income and Richmond's to narrow somewhat by the year 2005. In 1980, the average household income for Richmond was 70% that of the County's; by the year 2005 it is projected to be 74% of the County's.

Ethnic Composition

Richmond's ethnic composition, according to the 1990 U.S. Census, was:

TABLE D-7
ETHNIC CHARACTERISTICS OF RICHMOND POPULATION
1990

<u>Ethnic Group</u>	<u>Population</u>	<u>% of Total</u>
BLACK	38,260	43.8 %
WHITE	31,633	36.2 %
AM. INDIAN/ ESKIMO/ALEUT	522	0.6 %
ASIAN/PACIFIC ISLANDER	10,341	11.8 %
OTHER RACE	6,669	7.6 %
TOTAL	87,425	100.0 %
HISPANIC ORIGIN	*12,690	14.5 % *

* separate from ethnic breakdown.

As Table D-7 indicates, Richmond's non-White population in 1990 was 63.8% of the total population.

Comparison of Ethnic Composition of Richmond's 1990 and 1980 Population. The following table compares Richmond's population by major ethnic groups and by Hispanic, in 1990 and 1980.

 TABLE D-8
 RICHMOND, CALIFORNIA
 POPULATION BY MAJOR ETHNIC GROUPS AND BY HISPANIC:
 1990 COMPARED TO 1980

<u>Ethnic Groups</u>	<u>1980</u>		<u>1990</u>		<u>Change 1980-1990</u>
BLACK	35,799	47.9%	38,260	43.8%	+ 2461
WHITE	29,664	39.7%	31,633	36.2%	+ 1969
AM.IND. ESKIMO & ALEUT	452	0.6%	522	0.6%	+ 70
ASIAN & PACIFIC ISLANDER	3,642	4.9%	10,341	11.8%	+ 6699
OTHER RACE	5,119	6.9%	6,669	7.6%	+ 1550
TOTAL	74,676	100.0%	87,425	100.0%	+12749
HISPANIC*	7,713	10.3%	12,690	14.5%	+ 4977

* Hispanic is not an ethnic category. Persons of Hispanic Origin may be of any race. Percents Black, White, Am. Ind, Asian, and Other add up to 100%.

Source: U.S. Census, 1980 & 1990.

Trends in Ethnic and Hispanic Composition Since 1980. There were two dramatic changes in the ethnic and Hispanic composition of Richmond's population between 1980 and 1990. One, the Asian and Pacific Islander population increased by almost 3 times, from 3,642 to 10,341 persons. As a percentage of the City population, the Asian population rose from less than 5% in 1980 to 11.8% of the total in 1990. (See Table D-9.)

TABLE D-9
DETAILED BREAKDOWN OF
ETHNIC POPULATION
RICHMOND, CALIFORNIA
1990

P6+7. RACE	UNIVERSE: PERSONS					
TOTAL	87,425	100.0%				
WHITE	31,633	36.2%				
BLACK	38,260	43.8%				
AMERICAN INDIAN, ESKIMO, OR ALEUT	522	0.6%				
American Indian					489	0.6%
Eskimo					11	0.0%
Aleut					22	0.0%
ASIAN OR PACIFIC ISLANDER	10,341	11.8%				
Asian			10,047	11.5%		
Japanese					1,055	1.2%
Chinese					2,791	3.2%
Filipino					2,782	3.2%
Korean					518	0.6%
Asian Indian					813	0.9%
Vietnamese					491	0.6%
Cambodian					67	0.1%
Hmong					3	0.0%
Laotian					1,188	1.4%
Thai					65	0.1%
Other Asian					274	0.3%
Pacific Islander			294	0.3%		
Polynesian					203	0.2%
Hawaiian					124	0.1%
Samoan					66	0.1%
Tongan					13	0.0%
Other Polynesian					0	0.0%
Micronesian					59	0.1%
Guamanian					53	0.1%
Other Micronesian					6	0.0%
Melanesian					27	0.0%
Pacific Islander not specified					5	0.0%
OTHER RACE	6,669	7.6%				

The Black and White populations, as a result, both had a smaller percentage of Richmond's total population in 1990 compared to 1980, even though their population in numbers increased. Blacks went from 47.9% in 1980 to 43.8% in 1990. Whites went from 39.7% of the total City population in 1980 to 36.2% in 1990.

A substantial number of Southeast Asians have moved into Richmond and the West County area since the 1980 Census. The term "Southeast Asian" generally includes Thais, Vietnamese, Laotians, Cambodians, and Hmong. According to the 1980 Census Richmond had 105 Vietnamese residents. Data on Laotians and Cambodians were not provided. By contrast, in 1990 there were 1,188 Laotians, 491 Vietnamese, 67 Cambodian, 65 Thai, and 3 Hmong. In all, the Southeast Asian total in 1990 was 1,814 persons -- representing 2.1% of Richmond's total population.

Under the "Asian" category the largest groups in Richmond in 1980 were Filipino, Chinese, and Japanese, in that order. In 1990 the Chinese were the largest group, with 2,791 persons. The number of Filipinos was almost as large: 2,782. Next were: Laotians, 1,188 persons (mentioned earlier); Japanese, 1,055 persons; Asian Indians, 813 persons; and Korean, 518 persons.

The second dramatic change was the increase in persons of Hispanic Origin. Richmond's Hispanic population increased by almost 5,000 between 1980 and 1990, from 7,713 to 12,690 persons. As a percent of total population, Hispanics increased from 10.3% in 1980 to 14.5% in 1990.

In the 1990 Census, 6,669 Richmond persons described their ethnic group as "Other Race." Of these, 6,459 or 97% were persons of Hispanic origin.

Age

The general trend in Richmond's population between 1980 and 1990 was an increase in the size of the elderly population, and a decrease in the youth population. This continued a trend that started in 1970: the elderly population in Richmond has grown steadily over the past 20 years, while the youth population has decreased. Richmond youth population - persons below 18 years of age - has decreased from 34.2% of the total population in 1970, to 28.4% in 1980, to 26.4% in 1990.

Most neighborhoods in the City had a reduction in their youth population as a percentage of their overall population, between 1980 and 1990. The exceptions were Iron Triangle neighborhood, where the percentage of youth went from 32.5% to between 34% and 34.9% (two different Census Tracts); North Richmond - City portion, from 29.8% to 32.3%; Woods neighborhood (Census Tract 3750), from 30.6% to 33.3%; North & East 1, from 23.9% to 26.0%; North & East 2, from 20.5% to between 21% and 22.5%; and Wildcat

(El Sobrante, south side of San Pablo Dam Road), from 21.6% to 22.3%. The youth population of North Richmond - County portion was a very high 40.3% in 1990; in 1980 it was 34.9% of the total.

Citywide, the percentage of seniors increased from 7.7% in 1970, to 10.5% in 1980, to 11.3% in 1990. The number of persons 65 years of age or older in 1990 was 9,912 (11.3% of the population).

Most neighborhoods increased their ratio of seniors to the general population between 1980 and 1990. Some increases were striking: from 9.9% to 13.6% in Southside (Santa Fe, Coronado, and Cortez neighborhoods); from 8.7% to 12.4% in Census Tract 3810 (Pullman/Plaza); from 5.4% to 8.6% in Eastshore (Census Tract 3820); and from 4% to 8.9% in Fairmede-Hilltop. Some neighborhoods saw a decline, however, in the percentage of persons 65 and older: Parchester, North Richmond, Iron Triangle, Belding, and Woods.

The City's overall decrease in the youth population and the increase in the elderly population reflect national trends.

HOUSING CHARACTERISTICS AND NEEDS ASSESSMENT

General Housing Characteristics

The housing stock in the City of Richmond in 1990 consisted of 34,532 total housing units, according to the 1990 Census. The breakdown by type of unit was the following:

TABLE D-10
CHARACTERISTICS OF
RICHMOND HOUSING STOCK
1990

<u>UNIT TYPE</u>	<u># UNITS</u>	<u>PERCENT</u>
Single family detached	20,011	57.9 %
Single family attached	2,495	7.2 %
Multifamily 2-4 units	5,113	14.8 %
Multifamily 5+ units	6,472	18.7 %
Mobile homes	58	0.2 %
Other Units (Houseboats, etc.)	383	1.1 %
TOTAL	34,532	
<u>STATUS OF UNITS</u>		
Occupied	32,749	94.8 %
Vacant	1,783	5.2 %
Owner Occupied	17,840	54.5 %
Renter Occupied	14,909	45.5 %

Source: 1990 U.S. Census, Summary Tape File 1A.

Each neighborhood in Richmond is unique in its characteristics and conditions. However, there are common characteristics among groups of neighborhoods. The common characteristics usually relate to the period in which the housing was built.

Generally speaking, the higher priced housing is located in the hilly areas, was built since the 1960's in new subdivisions, and shows very little deterioration. Housing for moderate income families is located in the flatlands and was built in the late 1940's and 1950's. Housing is well maintained, neighborhoods are attractive and only spotty deterioration is taking place.

Housing occupied by low and lower income families is also located in the flatlands between the moderately priced housing and the industrial belt of Richmond. Much of the housing was built before the war, is small, was inexpensively constructed and rests on small plots. Many units are deteriorating and/or vacant, streets need repair, and neighborhoods are in a state of decline.

In 1980 Richmond's housing stock consisted of predominantly low density, single family detached units. 71.2% of Richmond's 29,082 housing units were single family and the remaining 28.8% were multifamily units. Of the 28,107 occupied housing units in 1980, 16,151 (57.5%) were owner-occupied and 11,956 (42.5%) renter-occupied.

By 1990 the City's housing stock had grown significantly (5450 more units), and had become more diversified. In 1990 only 57.9% of all units were single family detached, compared to 71% in 1980. The percentage of multifamily units had increased to 33.5%. And the percentage of owner occupied units had decreased somewhat, from 57.5% in 1980 to 54.5% in 1990.

Among ethnic groups, Asians and Whites had the highest rates of homeownership in Richmond in 1990. Among Asian householders 67.7% owned their housing units, and among White householders 63.6% owned their units. Table D-11 shows occupied units by tenure and by race and the percentage of owners and renters for each category.

TABLE D-11
RICHMOND OCCUPIED HOUSING UNITS 1990:
BREAKDOWN BY TENURE AND ETHNIC GROUP

<u>Ethnic Group</u>	<u>Owner Occupied</u>		<u>Renter Occupied</u>		<u>Total Units</u>
	<u>Units</u>	<u>%</u>	<u>Units</u>	<u>%</u>	
Black	5,987	43.8	7,689	56.2	13,676
White	9,084	63.6	5,200	36.4	14,284
Am.Indian /Eskimo	82	48.0	89	52.0	171
Asian/Pacific Islander	1,981	67.7	947	32.3	2,928
Other	706	41.8	984	58.2	1,690

TOTAL	17,840	54.5%	14,909	45.5%	32,749
Spanish Origin*	1,631	47.5%	1,800	52.5%	3,431*

*not an ethnic group in 1980 Census.

Housing Conditions and Substandard Units

In the Housing Element, "substandard building" shall be defined as set forth in Chapter 10 of the Uniform Housing Code and in Section 17920.3 of the California Health and Safety Code (the State Housing Law). "Dangerous building" shall be defined as set forth in Chapter 3 of the Uniform Code for the Abatement of Dangerous Buildings. The Uniform Housing Code and the Uniform Code for the Abatement of Dangerous Buildings have both been adopted by reference by the Richmond Municipal Code pursuant to the authority granted by the State Housing Law, contained in the California Health and Safety Code.

Richmond has a substantial number of older housing units. 1990 Census data was not yet available on age of housing stock. However, based on 1980 census data, 12,790 (44%) of the units were built prior to 1950. Many of these units are on smaller lots in the flatlands and are in need of repair. Many are occupied by lower income households.

In 1974 a windshield survey was performed by the City's building inspectors to determine the condition of Richmond's housing stock. The survey indicated there were an estimated 3,453 structurally substandard housing units, of which 1,480 (43%) were estimated to be owner-occupied and 1,973 (57%) renter occupied.

Richmond's 1988 Housing Assistance Plan, prepared in fulfillment of Federal requirements related to the Community Development Block Grant program, estimated the total number of substandard housing units in the City by combining the estimates of (a) physically and structurally deteriorated units and (b) overcrowded units. ("Overcrowded unit" is defined as a unit of 1.01 or more persons per room.)

In 1980 Richmond had 1,869 households in overcrowded units with complete plumbing facilities for exclusive use. Using the ratio of owner-occupied (43%) to renter-occupied (57%) established by the Housing Conditions Survey, there were an estimated 1,065 overcrowded rental units and 804 overcrowded owner-occupied units. Assuming a high correlation between physical deficiencies and overcrowdedness and also assuming that 50% of the overcrowded units have already been counted, the following total number of 1980 substandard units results:

	<u>Owner</u>	<u>Renter</u>
Structurally Substandard	1,480	1,973
Overcrowded and Not Structurally Substandard	402	533
Total Substandard	1,882	2,506

The 1990 Census indicated that the number of overcrowded units (units with 1.01 or more persons per room) had increased sharply from the 1980 levels. In 1980 Richmond had 1161 renter-occupied overcrowded units and 824 owner occupied overcrowded units, for a total of 1,985. In 1990, 2,116 renter-occupied units were overcrowded -- almost 2 times the 1980 level -- and 1,120 owner-occupied units were overcrowded (a 36% increase over 1980). Total overcrowded units in 1990 was 3,236.

Residents of Substandard Housing

The City's 1988 Housing Assistance Plan found that a very high percentage of the people living in substandard units were lower income persons. Richmond had an estimated 1,882 owner-occupied substandard housing units. Of these, an estimated 948 units or 50.4% were occupied by lower income households. The percentage of lower income households was even higher for the substandard rental units. Out of an estimated 2,506 renter-occupied substandard housing units, an estimated 1,852 or 73.9% were lower income households. (City of Richmond, Housing Assistance Plan, October 1988 - September 1991, page 11.)

Rehabilitation

The windshield survey mentioned earlier also indicated that approximately 81% of the housing rated as substandard was suitable for rehabilitation provided:

- the structure was capable of being brought up to City code;
- it was located outside of an industrial zone; and
- rehabilitation costs would not exceed 90% of the projected market value after rehabilitation.

Because there have not been any significant changes in housing conditions since the survey was completed, the results are still considered a valid means of estimating the number of substandard units suitable for rehabilitation in Richmond's housing stock. Based on the survey, approximately 1,530 owner and 2,078 rental units were estimated to be suitable for rehabilitation. (See Table D-12.)

Apartment Conversion, Impact on Availability

The availability of rental units has been decreased slightly since 1980 by the conversion of rental units into condominium units. According to the Richmond Planning Department 88 rental units were converted into condominium units between 1980 and 1984, representing 0.7% of the 11,956 total renter occupied units in Richmond in 1980. Planning Department records indicate that there have been no condominium conversions since 1984.

In February 1983 the City adopted a condominium conversion ordinance as a supplement to the City's Subdivision Ordinance, intended to regulate and control the conversion of rental property to condominiums containing five or more units, and prohibiting the conversion of projects consisting of fewer than five units.

Housing Needs of Special Needs Groups in Richmond

Richmond's population includes several groups that have special housing needs. They include:

- o lower income and minority low income households;
- o large families;
- o the elderly;
- o female heads of households;
- o unemployed persons;
- o handicapped persons;
- o homeless persons; and
- o farmworkers*.

* Note: Few, if any, migratory farmworkers are housed within the incorporated limits of Richmond. The 1980 Census reported zero farm population for Richmond. Richmond is not located close enough to major agricultural areas to serve as a residential location for farmworkers.

The high concentration of these special needs groups has placed added pressure on the limited public funds available to address Richmond's housing needs. In general, households in the special needs groups have less resources to expend for housing. As a result, they often occupy inadequate housing.

Lower Income and Minority Low Income Households. The housing assistance needs of Richmond's lower income households were estimated most recently in the City's 1988 Housing Assistance Plan (HAP), which is a part of the City's application for a Community Development Block Grant from the U.S. Department of Housing & Urban Development (HUD).

Table D-12 on the next page, taken from the City's 1988 HAP, provides an estimate of housing stock conditions, rental subsidy needs of lower income households, and the number of lower income households to be assisted between 1988 and 1991.

TABLE D-12
TABLES OF HOUSING ASSISTANCE NEEDS AND GOALS FROM
CITY OF RICHMOND HOUSING ASSISTANCE PLAN
1988-1991

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM ENTITLEMENT PROGRAM HOUSING ASSISTANCE PLAN		1. NAME OF COMMUNITY Richmond	
		2. GRANT NUMBER B - 8 8 - M C - 0 6 - 0 0 1 5	
3. PERIOD OF APPLICABILITY FROM: October 1, 1988 TO: September 30, 1991		5. HUD APPROVAL (Signature of Authorized Official) (Date)	
4. DATE OF SUBMISSION	4a. ☒ Original ☐ Revision ☐ Amendment		

PART I - HOUSING ASSISTANCE NEEDS

TABLE I - HOUSING STOCK CONDITIONS

	TENURE TYPE	STANDARD UNITS		SUBSTANDARD UNITS		SUBSTANDARD UNITS SUITABLE FOR REHAB		
		OCCUPIED UNITS	VACANT UNITS	OCCUPIED UNITS	VACANT UNITS	OCCUPIED UNITS		VACANT UNITS
						Total	Lower Income	
		A	B	C	D	E	F	G
6	Owner	13,733	526	1882	60	1530	771	59
7	Renter	9,116	288	2506	75	2078	1536	66

TABLE II - RENTAL SUBSIDY NEEDS OF LOWER INCOME HOUSEHOLDS

		ELDERLY	SMALL FAMILY	LARGE FAMILY	TOTAL
		H	I	J	K
8	Very Low Income	497	2,453	347	3,297
9	Percent	15.1 %	74.4 %	10.5 %	100%
10	Other Lower Income	271	734	50	1,055
11	ETR	10	10	17	37
12	To be Displaced	0	0	0	0
13	Total	778	3187	397	4362
14	Percent	17.8 %	73 %	9.2 %	100%

PART II - THREE YEAR GOAL

TABLE I - UNITS TO BE ASSISTED

		REHABILITATION OF SUBSTANDARD UNITS	NEW CONSTRUCTION	CONVERSION TO STANDARD UNITS	HOME IMPROVEMENTS
		L	M	N	O
15	Owner	345	58	6	600
16	Renter	60	120	0	0

(UNITS EXPECTED TO ASSIST LOWER INCOME HOUSEHOLDS)

17	Owner	345	58	6	600
18	Renter	60	120	0	0

TABLE II - LOWER INCOME HOUSEHOLDS TO RECEIVE RENTAL SUBSIDIES

		ELDERLY	SMALL FAMILY	LARGE FAMILY	TOTAL
		P	Q	R	S
19	Households to be Assisted Sec. 8/Voucher	48	197	25	270
20	Percent	17.8 %	73 %	9.2 %	100%

TABLE III - GOALS FOR HUD RESOURCES: SUBJECT TO LOCAL REVIEW AND COMMENT

		ELDERLY	SMALL FAMILY	LARGE FAMILY	TOTAL
		T	U	V	W
21	Households to be Assisted	48	197	26	270

Minority groups in Richmond occupy inadequate housing to a greater degree than the rest of the population, according to the 1980 U.S. Census. For example, the Census showed that minority households were far more likely to occupy substandard housing due to overcrowdedness (see Tables D-13 and D-14). 1990 Census Data on overcrowded units by ethnic groups was not yet available.

 TABLE D-13
 OVERCROWDED HOUSING - RICHMOND 1980 -
 BY ETHNIC GROUPS
 (Occupied Housing Units with Complete Plumbing
 and with 1.01 or More Persons Per Room)

	<u>Overcrowded Units</u>	<u>Percent of Overcrowded Units</u>	<u>Percent of Total Population</u>
White	332	17.8	39.7
Black	1,144	61.2	47.9
Am. Indian	5	0.3	0.6
Asian	200	10.7	4.9
Other	188	10.1	6.9
Total	1,869	100.0	100.0
Spanish Origin	335	17.9	10.3

TABLE D-14
 SUBSTANDARD UNITS DUE TO OVERCROWDING
 RICHMOND 1980 - BY ETHNIC GROUPS
 (Number of Substandard Units Due to Overcrowding*)

	<u>White@</u>	<u>Black</u>	<u>Am. Indian</u>	<u>Asian</u>	<u>Spanish Origin @</u>	<u>Total</u>
Owner	56	246	1	43	56	402
Renter	73	326	2	57	75	533

* Assumes 43% of substandard units are substandard due to overcrowding; figures result from multiplying percent of each ethnic group in overcrowded housing by the number of owner-occupied and renter-occupied overcrowded units.

@ Because of double counting of Spanish Origin in White, both have been adjusted to equal total.

Table D-15 (below) shows that Richmond's minority groups generally have lower incomes than Whites. Black and Hispanic households have a higher incidence of poverty than other groups. Based on this it would appear that Blacks and Hispanics would also have a greater tendency to live in structurally substandard housing than would be their "share" in terms of percentage distributions.

TABLE D-15
INCOME/POVERTY - RICHMOND - BY ETHNIC GROUPS - 1980

	<u>White</u> [@]	<u>Black</u>	<u>Am.</u> <u>Indian</u>	<u>Asian</u>	<u>Spanish</u> <u>Origin</u> [@]	<u>Total</u>
Mean Family Income	\$23,945	\$17,272	\$19,815	\$27,350	\$20,499	\$21,663
% Persons Below Poverty	8.5	27.7	8.3	7.4	19.7	16.5

Source: 1980 Census.

The tendency for Black and Hispanic households to occupy substandard units at a higher rate than their share of the population would suggest is reflected in the racial percentages for overcrowded units. If we use the overcrowded percentages and apply them to structurally substandard units, we obtain the following results:

TABLE D-16
STRUCTURALLY SUBSTANDARD HOUSING UNITS 1980
RICHMOND - BY ETHNIC GROUPS
(Number of Structurally Substandard Units)

	<u>White</u> [@]	<u>Black</u>	<u>Am.</u> <u>Indian</u>	<u>Asian</u>	<u>Spanish</u> <u>Origin</u> [@]	<u>Total</u>
Owner	206	906	4	158	206	1,480
Renter	274	1,207	6	211	275	1,973

@ Because of double counting of Spanish Origin in White, both have been adjusted to equal total.

By adding Tables D-14 and D-16 together, we obtain a breakout by race and tenure of the total estimated number of substandard units:

TABLE D-17
SUBSTANDARD HOUSING UNITS BY RACE

	<u>White</u> [@]	<u>Black</u>	<u>Am. Indian</u>	<u>Asian</u>	<u>Spanish Origin</u> [@]	<u>Total</u>
Owner	262	1,152	5	201	262	1,882
Renter	347	1,533	8	268	350	2,506

[@] Because of double counting of Spanish Origin in White, both have been adjusted to equal total.

To determine the number of lower income households in substandard units by race and tenure, the results of Table D-16 are multiplied by the percentages of lower income owners and renters in substandard units, reported earlier in this Section (50.4% owners and 73.9% of renters).

TABLE D-18
LOWER INCOME HOUSEHOLDS IN SUBSTANDARD UNITS BY RACE

	<u>White</u> [@]	<u>Black</u>	<u>Am. Indian</u>	<u>Asian</u>	<u>Spanish Origin</u> [@]	<u>Total</u>
Owner	132	581	3	101	132	949
Renter	256	1,133	6	198	259	1,852

[@] Because of double counting of Spanish Origin in White, both have been adjusted to equal total.

Housing Overpayment. Among Richmond's households, 5,588 (46.7%) of all renters and 3,883 (24.0%) of owners paid more than 25% of their income in 1979 for housing. (Housing costs as a percent of income was not yet available from the 1990 Census.) Overpayment is currently defined as spending more than 30% of one's income for housing. The 1979 figures, however, are useful as they show that a high percentage of renters in Richmond are probably overpaying for housing.

As previously mentioned, approximately 59% of Richmond's households are lower income households. By interpolating the data from the 1980 Census, we can estimate the number of lower and very low income households paying in excess of 30% of their income in rent.

 TABLE D-19
 VERY LOW AND LOWER INCOME HOUSEHOLDS
 PAYING IN EXCESS OF 30% OF INCOME FOR RENT

	<u>Elderly</u>	<u>Small Family</u>	<u>Large Family*</u>	<u>Total</u>
Total Lower Income	768	3,187	397	4,352
Minus Very Low Income	497	2,453	347	3,297
Total Other Lower Income	271	734	50	1,055

* Families with five or more persons

Large Families. "Large families" are defined as families with five or more persons. There were an estimated 1,183 lower income, minority large families in substandard housing in the City of Richmond in 1982. And in 1988 Richmond had an estimated 397 very low or lower income large family households that were in need of rental subsidy. Of these, an estimated 347 were very low income families.

Typically, large families require at least a three-bedroom dwelling unit to accommodate their needs, and many require units with four or more bedrooms. In 1980, Richmond's housing stock contained 2,036 large rental units -- units with three or more bedrooms.

The exact number of large family owner-occupied dwellings in Richmond is not available. Large homeowner families, however, have the same basic problems as large renter families. All too often large families rent or own housing that is substandard and/or too small for their needs, because more adequate accommodations are not available at a price they can afford to pay. At the same time, large apartments and single-family units are also in demand by smaller families who can afford and desire to pay higher rents or prices for larger houses. This makes the housing shortage problem for large families even more acute.

The Elderly. Richmond's 1990 population had 9,912 persons of age 65 or older, representing 11.3 % of the population. In 1980 the elderly were only 10.5% of the population. As indicated earlier in the discussion of population, the City's elderly population is growing relative to other age groups. In most of Richmond neighborhoods, in fact, the ratio of senior citizens to the total population increased between 1980 and 1990.

Senior citizens represented 8.4% of all persons living below the poverty level in 1980. Among non-family householders (householders living alone or with unrelated persons), 18.9% of those aged 65 or over were living on incomes below the poverty level.

Richmond had 1,825 persons aged 65 or older who were "economically disadvantaged persons" (defined as persons whose income was below the Federal Poverty Guideline), according to the California Employment Development Department based on 1980 Census poverty data. (EDD, June 1991) Of these, 714 were aged 75 and over. In other words, an estimated 13% of economically disadvantaged persons in Richmond in 1989 are 65 years old or older.

Despite property tax rebates now available to lower income elderly homeowners, many Richmond seniors are badly in need of financial assistance to rehabilitate or replace their houses. An estimated 425 elderly lower income minority households were living in substandard housing according to the Housing Assistance Plan; 396 or 93% of these were Black.

An estimated 778 very low or low income elderly households were in need of rental subsidy, according to the City's 1988 HAP. Of these, 497 or 63.9% were very low income households.

In 1990 Richmond had 3,041 owner occupied housing units with a householder age 65 to 74, and 1,963 owner occupied units with householder age 75 years and over, or a total of 5,004 units owned and occupied by elderly homeowners -- 18% of Richmond's total owner-occupied housing units. The City's experience in operating a code enforcement-relocation program provides evidence that houses in the worst physical condition are often occupied by elderly homeowners.

There were 976 renter-occupied units with householder age 65 to 74 years, and 663 renter-occupied units with householder age 75 or over. This is a total of 1,639 renter-occupied units with elderly householder, representing 10.9% of Richmond's total renter occupied housing units.

Combining the owner-occupied and renter-occupied units, elderly persons occupied 20.3% of Richmond's total occupied units. The group hardest hit by rising costs, including housing costs, are persons on fixed incomes, particularly the elderly and handicapped.

Female Heads of Household. The total number of family households headed by females in Richmond in 1990 was 6,642, representing 30.5% of all family households in Richmond. In 1980 the total family households headed by females was 4,897, representing 24.8% of all Richmond family households.

More than one-third of the female-headed households in 1980 (1,781 or 36.4% of the total female-headed households) were living in

poverty. In certain neighborhoods the percentage of female-headed households living in poverty was above 45%, and in the Iron Triangle it was 50.4%.

Detailed data is not available on the housing needs of Richmond's households with female heads. It is assumed that their housing needs are reflected in the numbers for small and large households, and in the numbers for minority low-income households. This is because seven neighborhoods in Richmond had 90% of the city's total households with female head of household and below poverty. These were: Iron Triangle, Southside, Pullman Plaza, North Richmond, Parchester, Belding Woods, and Eastshore. And six of these seven neighborhoods had the highest percentage of minorities among all Richmond neighborhoods.

Unemployed Persons. Richmond's 1980 unemployment rate was 9.3%, compared to the Contra Costa County rate of 5.8%. By 1991 unemployment had decreased substantially, but Richmond's rate was still significantly higher than that of the rest of the County. In January 1991 the California Employment Development Department estimated that unemployment in Richmond was 6.6%, compared to 3.8% in Contra Costa County (excluding Richmond). (EDD, June 1991)

1990 unemployment rates by ethnic group were not yet available from the Census. However, in 1980 Black male unemployment in Richmond was 14.8% compared to 5.8% for White males. Black female unemployment (11.2%) also was substantially higher than the corresponding rate for White females (5.8%).

Handicapped. Data on the total number of handicapped persons in Richmond was obtained from the Contra Costa County Department of Social Service records of recipients of Aid to the Totally Disabled and Aid to the Potentially Self-supporting Blind. Approximately 3.1% of Richmond's population is handicapped, or 2,540 persons. In a separate study, the California Employment Development Department estimated that Richmond had 2,362 economically disadvantaged handicapped persons. (EDD, June 1991)

There is little hard data available to substantiate the extent to which handicapped residents have special housing needs. Experience, however, indicates that a significant number need special facilities and are of low incomes as well. Few housing units in Richmond are designed to assist the physically handicapped in moving about with ease. This situation often prevents many handicapped persons from living independently.

It is reasonable to assume that the incidence of housing needs is twice as great among the handicapped as among the general population. A general estimate of the total number of handicapped with special housing needs would be at least 1,000 persons, or close to one-half of all handicapped persons. This would include persons who have already been counted in other categories.

The Department of Social Service provided estimates of those living alone (60), in small families (740), and in large families (216).

Mentally handicapped persons are often unable to live independently. They may require assistance both within and outside of their homes. Mentally handicapped persons also face negative reactions from people who do not want them to live nearby.

Homeless Persons. Estimates vary as to the number of homeless persons in Contra Costa County and in Richmond.

According to the 1990 Census, Richmond in March 1990 had 186 homeless persons in emergency shelters and 130 homeless "visible near streets." The combined total figure of homeless persons counted in the 1990 Census in Richmond, then, is 316 persons.

Contra Costa County in its 1990 Comprehensive Homeless Assistance Plan (CHAP) states: "The homeless crisis has become increasingly visible in Contra Costa County. Statewide estimates indicate there might be as many as 5000 homeless persons in the County, which could include more than 3000 in families and 2000 children."

Another recent estimate is by HomeBase, a regional support center for homelessness policy and programs. In a May 1990 study titled "The Number of Homeless People in the Nine-County Bay Area: July 1988 - June 1989," HomeBase estimated that Contra Costa had 3,254 families, or 9,900 persons, who were homeless for some period during the year ending June 1989. The estimates are based primarily on statistics from the State of California Department of Social Services and the various County Social Service Departments.

The HomeBase estimate for Contra Costa is broken down as follows:

<u>Category</u>	<u>Families</u>
AFDC Temporary Shelter Approvals	2760
[AFDC Permanent Shelter Approvals]	[1978]
Unduplicated AFDC Permanent Shelter Recipients*	198
AFDC Ineligible for Homeless Assistance Program	148**
Undocumented	148***
TOTAL	3254 Families

* Assumes 10% of the families receiving permanent shelter assistance did not receive temporary shelter assistance, and assumes the other 90% received both.

** Estimate based on HomeBase assumption that 5% of families that applied were ineligible.

*** Assumes 5% of homeless families are undocumented and do not qualify for AFDC homeless assistance.

According to State Social Services Department data each Aid to Families with Dependent Children (AFDC) household includes an average of 1.958 children and an average of 3.072 people. This would result in an estimated 9990 family members (parents or children) in Contra Costa homeless for some period during the one-year study period.

According to HomeBase this figure is an unduplicated count and conservative since it does not include:

- o homeless single (non-family) individuals receiving or applying for county-funded general assistance or federally funded SSI;
- o individuals and families living in parks, cars and under bridges;
- o individuals sleeping on the couches of friends and family, or families and individuals doubling up in apartments;
- o homeless youth not in a family unit nor applying for assistance as an adult.

Furthermore, HomeBase points out that its estimates do not include very low and low income renters in the region and individual counties, many of whom may be paying at least 70% of their income for housing costs. These are households that may be only "one personal crisis" away from being on the streets.

The HomeBase figures, on the other hand, would include many "temporary homeless" families who may be homeless for only a few weeks. The AFDC homeless assistance program, on which HomeBase bases its estimates, provides special needs grants to pay for three to four weeks of temporary shelter, last month's rent, a security deposit and other costs necessary to obtain permanent housing.

What is the homeless population in Richmond? The 1990 Census count of 316 homeless persons in Richmond in March 1990 represents one source of information. Another way to estimate Richmond's homeless would be to assume that 25% of the countywide homeless are located in Richmond. This is based on the 1980 U.S. Census, which found that Richmond had 25% of the total persons in poverty status in 1979 in Contra Costa County, and 27% of the countywide total of families with incomes below the poverty level.

If we assume that Richmond has 25% of the County's homeless population, the number of persons in Richmond who are homeless for some period during a 12-month period would be in the range of 1250 (25% of the County CHAP figure of 5000) to 2500 (25% of the HomeBase estimate of 9990 for Contra Costa).

How many homeless persons are in shelters in Richmond on an average night? This number would vary based on several factors such as

season of the year, weather, current County shelter arrangements, and other factors. In March 1990 the U.S. Census Bureau conducted its nationwide count of the homeless as part of the 1990 U.S. Census, and counted 186 homeless persons in emergency shelters in Richmond.

How many homeless shelter beds and transitional housing beds are available in Richmond? Table D-20 lists known shelters, transitional housing, and permanent housing facilities for the homeless located in West Contra Costa County. Most of the facilities are located in Richmond. Average resident population (where known) is also listed.

 TABLE D-20
 EMERGENCY SHELTER, TRANSITIONAL HOUSING, & PERMANENT
 HOUSING FOR HOMELESS PERSONS - WEST CONTRA COSTA COUNTY
 (AS OF JANUARY 1992)

Facility	Capacity (# beds)	Avg.resident pop./night
Families		
City of Richmond Transitional*	28	7
Richmond Rescue Mission(Richmond)	238	130
VOA Women's Shelter (Richmond)	12	8
VOA Family Support Shelter(Richm.)	24	20
Shilo Transitional (Richmond)	15	15
Subtotal	317	
Singles - Men		
Richmond Rescue Mission(Richm.)	(238)	(130)
Christian Believers (Richmond)	10	
Christian Believers Hotel(Richm.)	26	
County Shelter - Brookside Drive (Richmond)	56	N/A
Singles - Women		
VOA Women's Shelter (Richmond)	(12)	(8)
VOA Family Support Shelter(Richm.)	(24)	(20)
Christian Believers (Richmond)	10	
Christian Believers Hotel(Richm.)	(26)	
Richmond Rescue Mission(Richm.)	(238)	(130)
County Shelter, Brookside Drive	(56)	N/A
SUBTOTAL	227	

Mentally Disabled

Nyumba Chucki (Richmond)	12
Phoenix Shelter (Antioch) ##	7
Rubicon Transitional Apts (Richmond)	12
Rubicon Homes (Richmond)	10
Rubicon Apts (Richmond)	14
Subtotal	55

Alcohol/Substance Abuse

Clean & Sober House (San Pablo)	6
Holloman Detox House (Richmond)	20
Holloman Transitional (Richmond)	17
Rectory Transitional (San Pablo)	15
New Dawn Transitional (Richmond)	6
Subtotal	64

AIDS Patients

Metta Vihara (Richmond)	6
-------------------------	---

West County Total	544
-------------------	-----

() = beds listed more than once; duplicates are not included in the total.

* Transition & Care of the Homeless (TACOH) project.

Phoenix has a 20-bed shelter in Antioch which allocates 5-7 beds for Richmond and West County.

Sources: Contra Costa County 1990 Comprehensive Homeless Assistance Plan (CHAP), June 1990; Contra Costa County Social Service Department; and Richmond Planning Department telephone survey.

What are the characteristics of the homeless population in Richmond and in the County? During one week in February 1987 the County Office on Homelessness conducted a survey of all homeless people who contacted human service organizations. A total 1,293 different homeless people in the County were contacted and surveyed. Of the 1,035 Contra Costa homeless who described their shelter needs in the survey, 70% were homeless families with children, 18% were single men, 8% were single women, 3% were childless couples, and 1% were of unknown status.

The 1987 survey results indicated that Contra Costa County's homeless problem is local. The vast majority of persons requesting assistance were from Contra Costa County.

A January 1989 survey of homeless single adults staying at the Richmond Armory indicated that very few of the clients were chronic homeless; less than 10% had been homeless for a year or more.

The major subgroups within the County's surveyed homeless population are the following:

- o Families with Children: One or two parent families with children comprise the largest percentage of the County's surveyed homeless. According to the County Office on Homelessness and service providers, homeless families with children may be headed by one or two parents, generally a single parent female. Their needs for affordable family housing, child care, job skills training, food, and medical care are acute. Existing services may include three-day motel vouchers, brief stays in a religious shelter, visits to a food pantry or assistance from the Department of Social Service.
- o Single Men: Single men comprise the next largest group of County homeless, often unemployed or underemployed, often with drug or alcohol addictions, and health or mental health problems. Existing resources include employment counseling, county drug rehabilitation programs, county hospitals, and religious shelters.
- o Single Women: Homeless single women, like their male counterparts, suffer from unemployment, medical, and hunger problems. Existing resources may include motel vouchers, food, employment, and miscellaneous services at scattered locations. As with homeless men and families with children, the County needs a facility to integrate emergency housing with support services such as day care and job training for homeless single women.
- o Run-away or "Throw-away" Youths (evicted from their families): Homeless children, especially subject to the deprivations of the streets, need not only housing but extensive emotional and social support. Only one shelter with seven beds exists in the County and is forced to turn juveniles away daily due to lack of space.
- o Elderly homeless: Homeless elderly and near-elderly, unable to house and feed themselves on subsistence level fixed incomes, are in need of permanent affordable housing as well as health and other support services. The elderly are currently aided by some county service programs and by the same motel vouchers and food pantries which assist the other homeless. HUD funds for the development of transitional and single-room occupancy (SRO)

housing could provide permanent and semi-permanent assistance to the elderly.

- o Victims of Domestic Violence: One battered women's shelter exists in the County, providing excellent service to domestic violence victims. Due to lack of space, however, it must also turn away persons in crisis.
- o Mentally Disabled: Mentally disabled homeless in Contra Costa County have often been compelled to seek assistance in other counties due to lack of services here. Mentally disabled homeless lack the resources to acquire permanent housing and their mental disabilities can be exacerbated by homeless conditions.
- o Physically Disabled: Physically disabled homeless, often with severe medical conditions or mobility problems that preclude them from earning a liveable wage or finding suitable housing, are in extreme crisis when forced to live on the streets. Services are provided in separate locations by a number of emergency service providers such as food pantries or County medical clinics, but emergency and transitional housing programs offering permanently affordable SRO housing are also needed.
- o Veterans: Many homeless Veterans are physically or mentally disabled and suffer employment problems. As with other homeless in the County, they receive services from a number of different providers and from the Veteran's Hospital. A comprehensive housing and service program is needed, however, for one-stop care.
- o Immigrants: This group is the least likely to request assistance from a public agency and struggles on its own to secure safe, low-cost housing. Language and cultural differences present barriers to service. Currently, immigrants are assisted by food pantries, the Center for New Americans, motel vouchers, and the County's existing shelter programs. Assistance is found in a variety of separate locations but lack of transportation, services, and housing present further impediments to self-sufficiency.

Existing Homeless Aid Programs. Providing for the homeless means responding to several immediate requirements including shelter, food, and critical health care, among others. Shelter is obviously paramount, and is provided through County programs which serve targeted populations, such as the AFDC Homeless Assistance Program and Homeless Hotline. Other State and Federal resources exist to develop shelter facilities but have limited funds for operating costs. These include: Emergency Shelter Grants; Supportive Housing Demonstration Program; the Supplemental Assistance Program, and the Single Room Occupancy Section 8 Moderate Rehabilitation Program.

Homelessness-related services currently available in Contra Costa County consist of those funded either through Federal entities (the Federal Emergency Management Agency - FEMA - and others), local government (through HUD Community Development Block Grant or other funds), or provided by non-profit organizations (United Way, Red Cross, Volunteers of America, religious groups, etc.). The local service agencies provide a variety of programs including employment referrals and resources, social workers, legal services, counseling and crisis intervention, emergency shelter, rent or mortgage assistance, food, and clothing.

Analysis of Shelter & Transitional Housing Needs. Table D-20 indicated that West County had an estimated 544 emergency shelter, transitional housing, and permanent housing beds for homeless persons, most of which were facilities located in Richmond. The number of persons in Richmond that are homeless for some period during each year was estimated to be within the 1250-2500 range. A comparison of these two numbers would suggest that available beds for homeless persons in the Richmond area can accommodate between 22% and 43% of the total number of persons that may be homeless for some period during any given year. However, if the total number of homeless persons in the Richmond area at any one time is in fact considerably less than the estimate of 1250 to 2500 persons homeless in the Richmond area at some time during the year, the actual gap between the number of available beds and the persons needing shelter at any one time may not be so acute.

Both figures, then, the total beds available and the estimated number of homeless, require further qualification. On the supply side, the 238 beds in the Richmond Rescue Mission are not available on a non-sectarian basis, as Christian prayer is required at mealtimes and the shelter is not open to unmarried families. Because of these and other conditions some homeless persons in Richmond choose not to use the Rescue Mission, on religious or personal grounds.

On the demand side, many of the homeless families receiving AFDC homeless assistance may be homeless for a few weeks only, and their temporary shelter needs are met through motel vouchers; consequently this segment of the homeless may rarely need to use the shelter facilities.

Based on the above analysis, it is reasonable to conclude that there is a need for additional emergency shelter beds and transitional housing units to serve Richmond's homeless population; and the actual number needed is probably less than the gap between currently available beds and total estimated homeless persons in a 12-month period.

It may not be unreasonable to assume that there is a need to increase the number of beds currently available year-round by a factor of 25%. If we take the West County figure of 544 beds and

increase this by 25%, it would call for an additional 136 year-round shelter beds in the Richmond area.

Service providers in the West County area have indicated that there are specific needs for additional shelter facilities for women, particularly single women with children, and for families. At the same time, the most visible homeless group in Richmond are the single males.

Another specific need has been identified by County staff and others serving the homeless: a need for more transitional housing units coupled with job training and other support services -- particularly for single men and women. Virtually no transitional facilities for single men and women exist except for those with alcohol, drug, or mental health referrals. Lastly, there is a clear need for more drug rehabilitation and treatment services for the homeless. According to the County Social Service Department, a significant percentage of its homeless clients are substance abusers.

Housing Needs Related to Adequate Housing

Richmond's housing stock is predominately single-family, owner-occupied units (58.9% of all occupied units in Richmond in 1990 were single-family detached units; another 7.3% were single-family attached units). The trend, as Richmond becomes more urbanized, as costs rise and as energy resources become more scarce, is expected to be toward more clustered developments sharing common walls and low-rise multi-family structures.

The housing stock in the older neighborhoods in the flatlands is mostly small, cheaply built, and placed on small plots. The housing is home to lower income families. However, as the price and demand for housing rises, middle income families will move into these neighborhoods.

Substandard Units: The City's Housing Assistance Plan estimated that 13.7% of Richmond's homeowners and 27.5% of its renters lived in substandard housing in 1988. The total number of substandard units was estimated to be 4,523. A large percentage of the City's substandard units are found in the older neighborhoods in the flatlands having a relatively high proportion of lower-income, minority residents.

These percentages are substantially higher if occupants who are overpaying for housing are added. In 1979, 46.7% of Richmond's renters and 24.0% of the homeowners overpaid for housing, according to the 1980 Census. Overpayment data was not yet available from the 1990 Census.

An estimated 3,608 occupied substandard housing units and 125 vacant substandard units, for a total of 3,733 substandard units,

were suitable for rehabilitation according to the 1988 Housing Assistance Plan (see Table D-12). The HAP estimated that 2,307 or 64% of the 3,608 occupied substandard units suitable for rehabilitation were occupied by lower income persons. An estimated 790 substandard units needed replacement, according to the HAP.

City Assisted Housing Rehabilitation: Between January 1980 and the end of 1989, 658 housing units were brought up to code and rehabilitated to standard condition, with the assistance of the City's Community Development Block Grant funded programs. All of the units rehabilitated under the City-assisted programs housed lower income residents.

Unsatisfied Housing Need: In 1988 Richmond had an unsatisfied existing housing need of 232 units, and a projected need of net additions to the existing housing stock of 4,823 units by 1995, according to ABAG's January 1989 Housing Needs Determinations study for the San Francisco Bay Area.

New Housing Completions: A total of 5,051 net new housing units were added to the City's housing stock in the 1980-1989 ten-year period -- a 17.4% increase in the City's total housing units in ten years. This is an average of 505 additional units per year. This trend continued into the early 1990s. Another 758 net housing units were added in Richmond in 1990 and 710 units in 1991.

A large proportion of the new homes were built in four major new residential areas in Richmond: El Sobrante Valley; Hilltop; Marina Bay; and Brickyard Cove-Point Richmond. These four areas are all moderate income, above moderate, or high income neighborhoods. (See Addendum 1 at end of this section for detailed data on new housing in Richmond, 1985-1991).

Housing Needs Related to Homeownership

Potential Homeowners/Income-Price Squeeze. The income-price squeeze is both a national and regional problem. Incomes are not rising nearly as fast as housing prices. This is particularly true of the San Francisco Bay Area region, one of the most expensive areas in the nation for housing.

In September 1991 the median price for the median-priced home in the San Francisco Bay Area was \$254,660, according to the California Association of Realtors. An estimated 18 percent of Bay Area households could afford to buy the median-priced home, which was 5 percentage points higher from a year earlier. However, housing was less affordable in the Bay Area than in any other metropolitan area in the State of California.

In Richmond the mean (average) value of all owner-occupied housing units in 1990 was \$161,403 according to the 1990 Census. A separate 1989 study found that the median sales price of homes that

were sold in Richmond in 1989 was \$149,900 and the average price was \$168,866. (Source: REM Associates of Walnut Creek; quoted in West County Times, January 28, 1990.) By contrast, in 1980 the mean (average) value of owner-occupied noncondominium housing units in Richmond was \$64,636. The average value of a homeowner unit in Richmond (unadjusted for inflation), in other words, increased 2.5 times in the ten years from 1980 to 1990.

To overcome this trend, either inflation must be controlled or more houses produced. The City recognizes that its ability to influence the income-price squeeze is severely limited.

Upper income households can pay more money for housing, and therefore can still obtain housing and can choose housing types and locations to fit their needs and preferences. Market forces are dictating that housing for upper income households is the predominant form of housing being constructed in the San Francisco Bay Area.

Moderate income families find it increasingly difficult to purchase their first house in today's market. Based on the price for the median-priced home, a household in the Bay Area needed an income of \$78,282 to carry monthly payments of \$1,957, after a 20 percent down payment was made, according to the California Association of Realtors.

The Bay Area Council estimated that the San Francisco region's median price for a single-family detached home was affordable only to one in eight households in the region -- and then only if they can make a substantial down payment. If a down payment can be financed, the cost of mortgage payments, interest on loans, property taxes, insurance, and utilities often preclude the possibility of home ownership.

Low income households have been priced out of the new house and rental markets and are rapidly being excluded from the resale housing market as well. This group is the one most impacted by high housing costs.

In order to meet the needs of potential homeowners affected by the income-price squeeze, a number of possible remedies are available:

- o Use lower cost construction methods, i.e., manufactured housing or modular construction.
- o Build smaller units (less than 1,000 square feet) with fewer amenities (garbage compactors, air conditioners, garage door openers, etc.). This remedy would require encouraging first home families to reduce their expectations.
- o Design for more efficient and more dense use of land and buildings, i.e., planned unit developments, townhouse/common

80

wall construction, multi-family structures. The units can be built for homeownership by structuring the ownership as condominiums or cooperatives.

- o Use self-help techniques to build new units or rehabilitate old units. Existing rehabilitation programs need to be revised to permit self-help construction.
- o Use all available financing techniques, such as: tax-free bond issues to reduce interest paid on mortgages; co-venture arrangements to reduce the homebuyer's down payment and interest; variable rate mortgages which will allow more funds to be available, but may force the homeowner to give up his house if the payments become too large.

Housing Needs Related to Balancing Richmond's Housing Stock

Need to Improve Balance by Income Levels. By and large, Richmond's lower income families currently live in the relatively lower cost housing located in the older neighborhoods in Central Richmond. The imbalance, or the concentration of income levels in certain areas, is due to construction, design and lending practices used across the United States, as well as to the personal preferences of individuals. The causes of imbalance may be included in what is called the "subdivision mentality." Buyers, developers, and lenders (including the federal government) have traditionally advocated homogenous neighborhoods which have resulted in rows of similar housing. Being similar, the houses sell in the same price range, and therefore attract persons of the same income level.

The existing pattern, in which all lower income families live in one area, will change as the cost of housing rises. Moderate income families may choose to live in housing which traditionally has been for lower income families. If the speed with which the change takes place is slow, the stability of the neighborhood will be maintained; moderate income families will replace lower income families as they die or move away. If the speed of change is fast, the stability of the neighborhood will be threatened; lower income residents will feel pressure to sell or move out.

Improve Balance By Race. Neighborhoods within the City are not balanced racially. Racial imbalance is due to personal preferences of residents, to racial discrimination, and to historically set residential patterns. During and after World War II, certain sections of Richmond were designated as Black residential areas. Though segregation in real estate has been formally illegal for many years since that time, original settlement patterns have persisted and may take generations to overcome.

Federal and/or State law prohibits discrimination on the basis of race, sex, national origin, religion, disability, marital status, or familial status (e.g. having children). Overt discrimination on

the basis of these characteristics is therefore rare, though overt discrimination on the basis of age, single head of household, children, and source of income is still in evidence.

Discrimination persists in housing when rental applicants or prospective buyers are treated differently. Covert discrimination against all special population groups appears to increase as demand for housing rises. For example, demand for rental housing is increasing, and it appears that discrimination against renters with children is on the increase.

Housing Needs Related to Safe and Attractive Neighborhoods

Neighborhood Appearance. The appearance of other homes in a neighborhood can be the selling point of a house. If a home is well-kept, appears to be in good condition, and is located on a block where other homes are similarly maintained, it will likely sell faster and at a higher price than a well-kept home surrounded by less well-maintained properties. Just one poorly maintained house or garden in an area may adversely impact the neighborhood. The vacancy rate of a given area can also detract from an area's appearance and value. Poorly maintained houses, high vacancy rates, neighborhood decline, and low housing value are all interrelated.

Trees and landscaping are critical to the appearance and feel of a neighborhood. If the proper types of trees are encouraged and maintenance is the responsibility of the property owner, it is a minimal cost to the City. Adequate streets, sidewalks, curbs and gutters improve the overall appearance of a neighborhood.

Compatible Land Use. Many areas in Richmond have a mix of incompatible land uses. Financing is quite difficult to obtain in areas of mixed land use. Incompatible land uses are not easily eliminated. Natural attrition of incompatible land uses could take several generations. Advance planning with accompanying rezoning and programs for interim use and relocation can expedite the separation of uses.

Quality of Schools. Good schools are important to a community and are a factor in maintaining the market value of housing. Families with children want to live in neighborhoods with good schools, both for education purposes and as a community focal point. Several schools in Richmond scored quite low in reading and mathematics in the California Assessment Programs.

Park and Recreation Facilities. Availability of parks and recreation facilities adds to the desirability of a neighborhood. More leisure time among today's citizens, coupled with a growing interest in physical exercise and outdoor recreation, make it imperative that the City provide adequate parks and other facilities to meet the needs of its residents.

Densely populated areas of cities require a high ratio of park land to dwelling unit. In suburban neighborhoods, lots are often large enough to accommodate some recreation activities at home. In Richmond, the more dense neighborhoods are the areas which require additional park land. Adequate parks and facilities need to be planned for new areas and old areas which have a deficit of parks.

Neighborhood Services. People desire neighborhoods with easy access to retail and food stores and personal services such as laundromats, beauty shops, shoe repair, and insurance agencies. This is particularly true of low income senior and handicapped persons who do not have the luxury of an automobile. In addition, high gasoline prices make driving to out-of-the-way shopping centers an inefficient method of shopping. Locating retail shops and food stores in or close to residential neighborhoods alleviates many of these concerns, as well as having the indirect effect of building specific identities for individual communities.

Employment Opportunities. Employment enables individuals to secure the economic necessities and benefits of society including decent housing in pleasant neighborhoods. Those who do not have regular employment are usually unable to afford repairs to their homes and may therefore perpetuate the cycle of neighborhood decline. Richmond housing is heavily impacted by its long term, high rate of unemployment. Employment is needed, particularly, for those with low skill levels.

Distance to Work. It has always been desirable for people to live near their work place. With the increasing cost of fuel and increasing traffic congestion, it will become a necessity. There were 33,000 jobs in local business, industry and government in 1977, of which 55% or approximately 18,000 were filled by commuters from outside Richmond. At the same time, approximately 35% of Richmond's labor force who were employed in 1980 worked in Richmond, and 65% outside Richmond. This totals approximately 19,400 residents working outside Richmond, and only 10,400 in Richmond. Balancing housing and jobs will require advance land use planning.

Jobs/housing balance is discussed in greater detail in Addendum 3 to this Section. Regional projections of future jobs and employed residents in Richmond indicate that, based solely on the number of jobs in the Richmond area, the City's residents have the potential to live and work in the community (i.e. a good jobs/housing balance should exist) throughout the next twenty years.

Public Transportation. Public transportation within a neighborhood is becoming increasingly important to a growing number of home buyers. Traffic and parking problems, as well as the excessive costs of driving and maintaining an automobile, make mass transit a more attractive mode of travel for city residents. Inadequate public transportation increases the feeling of isolation shared by

many young people, seniors, and handicapped persons who are forced to remain close to home due to limited mobility. For low income workers, job opportunities are severely limited without public transportation. Improved public transit should be part of new development and redevelopment in Richmond. (See Section F of the Technical Appendix for further discussion of public transit.)

Public Safety. Crime impacts the quality of neighborhoods and the desire of people to reside or operate businesses in those neighborhoods. Families having a choice will usually choose not to live in perceived high crime neighborhoods.

Richmond's crime rate is influenced by such social and economic factors as high unemployment, a high percentage of poverty-level families residing in certain neighborhoods, and an unstable portion of the population which migrates quickly through Richmond.

Neighborhoods and police have a joint responsibility for preventing crime. Increasing community liaison with the police and encouraging neighborhood groups to be more active in crime prevention can lead to a safer environment.

Environmental Protection. Environmental protection includes two concepts, among others: protection of land which is not suited to development, and enhancing the natural beauty of an area.

As the price of land increases, there is increasing pressure to develop areas which are unsuited for development because of risk to life or property. Areas which need to be protected from development include those with unstable soil and steep terrain, those near seismic faults, and areas in potential flood zones.

Energy Costs. Gas and electricity are becoming increasingly costly, at a rate well in excess of the overall inflation rate (a 220% increase in energy cost, as compared to a 68% inflation rate over the last five years). Investment in conservation measures becomes increasingly economical as repayment time is shortened. However, the concept of passive energy conservation is relatively new, and must be supported by technical assistance to builders before it will come into wide usage. P.G. & E., the energy utility serving Richmond, maintains an active educational and informational program in this respect.

Energy Conservation. Opportunities for energy conservation are present in the selection of the location of residential areas. Locating new development near existing streets, utilities and public services conserves energy required for the construction of these facilities. Locations near major centers of employment, shopping and recreation conserve energy in the commute to work and recreation. Increasing residential densities conserves energy in construction. Availability of trails encourages use of bicycles and walking, thus conserving energy in transportation. These

conservation measures are considered in the administration of the City's General Plan and Zoning Ordinance.

Land Subdivision. The design of land development provides further conservation opportunities. The types of structures (attached versus detached) can lead to savings of 30-50% in energy used for heating. Clustering and reduced street standards can conserve energy by reducing the amount of utility and street construction energy by up to 60%. Orientation of the streets and design of the parcels for single family housing will influence the siting and orientation of buildings, and can reduce heating and cooling energy requirements by 40%. The design can integrate the use of solar heating (both water and space), and can promote air circulation for cooling. Judicious use of native plants can reduce the need for watering and maintenance, thus also reducing related energy consumption, and can be used for shading and windbreaks to reduce heating and cooling energy use. Energy conservation is discussed as a routine matter in the subdivision review process.

Richmond's Projected Share of Regional Housing Needs

ABAG (the Association of Bay Area Governments), as required by State law, determined in September 1988 the existing and projected housing needs through 1995, for persons at all income levels in the San Francisco Bay Area. ABAG also determined each city and each county's share of the regional need for housing. ABAG determined that in 1988 Richmond had an existing unmet need for 232 housing units; and a projected need for 4,823 housing units between 1988 and 1995.

In December 1988 the Richmond City Council adopted Resolution 211-88, accepting ABAG's allocation of 4,823 housing units as Richmond's share of the 1988-1995 regional housing need. In the same Resolution, however, the Council distributed the total Richmond housing need figure by income categories as follows:

<u>Income Category</u>	<u>Number of Units</u>
Very Low Income	54
Low Income	278
Moderate Income	1,552
Above Moderate	2,939

TOTAL	4,823

ABAG's Executive Board in January 1989 adopted Richmond's income distribution of its share of the regional housing need, with only minor adjustments in the numbers of units for each category:

Very Low Income	53
Low Income	280
Moderate Income	1,553
Above Moderate	2,937

TOTAL	4,823

In 1989, Richmond had more than a fair regional allocation of market area low-value housing and lower income households. Conversely, Richmond had less than a fair regional allocation of upper income families. "Fair regional allocation of market area" refers to the proportion of housing (according to categories of value) and of occupants (according to income level) which Richmond would have if housing and population were distributed evenly throughout the market area (defined here as most of the West County).

The concept of a regional allocation of the market area was developed by the State primarily as a means by which to determine if cities are accepting responsibility for their share of low-value housing and lower-income residents. Richmond has the opposite problem than that which concerns the State. Richmond's need is to balance the existing low-value housing with housing which attracts moderate and upper income families.

The adopted income distribution of Richmond's housing need would by 1995 bring the City's housing stock fairly closely in line with the region, with respect to lower income households (40% for Richmond, compared to the regional percentage of 39%). This is consistent both with past city policy and with the state law, which calls for distributing the regional housing need in a manner which "...seeks to avoid further impaction (of lower income housing)."

CONSTRAINTS

Governmental Constraints

This section analyzes potential governmental constraints to the development, improvement, and maintenance of housing for all income levels. Included in this review are the City of Richmond land use controls and zoning, codes and design standards, fees and other exactions required of developers, and local processing and permit procedures.

Land Use Controls and Zoning. The Richmond Municipal Code allows for a wide range of housing types. Table D-22 below provides a complete listing of the residential zoning districts and their average allowable densities in terms of units per acre. The City's zoning regulations, moreover, also permit residential development in several commercial districts.

Much of Richmond's flatlands are zoned at higher densities than existing development reflects. These areas could accommodate much more intensive uses. While the Zoning Ordinance does regulate the development of housing in Richmond, it in no way deters or poses significant constraints on such development in the city.

The City began work on a comprehensive revision of its Zoning Ordinance in 1990 (see implementation section of the Housing Element in Volume I of the Richmond General Plan). The revised Zoning Ordinance was expected to be adopted in the early part of 1993. In its draft form the revised Ordinance addresses and updates a number of obsolete standards, some of which may have acted as constraints to the development and improvement of affordable housing.

For example, in the existing Zoning Ordinance there is a potential constraint in the rather big jump from the R1 Single Family District to the first multiple family district, R2, in terms of allowable density. The City is addressing this in the draft Zoning Ordinance Revision by inserting a "duplex zone" category, which would allow for a smaller minimum lot size for single family dwellings -- 3500 square feet in the new "duplex zone" as opposed to the 5000 square foot minimum in the R1 district. Reducing the minimum lot size will allow for potentially more ownership housing opportunities than under the current regulations. The proposed new zone will allow for a mixture of one and two family (duplex) dwellings and "garden apartments."

Even the existing 5000 square foot minimum in the R1 district does not constitute a serious constraint, relative to other jurisdictions in the Bay Area. Furthermore, the City has demonstrated a fairly liberal policy regarding granting of exceptions to this standard.

The Zoning Ordinance revision as drafted proposes a redefinition of the City's residential districts to allow a more graduated, step by step increase in allowable densities and minimum lot sizes. This should provide housing builders with more flexibility and could promote more medium to high density developments resulting in more units.

One other area of potentially rigid land use controls is "live-work" space for artists and craftspersons, which has been allowed as an outright use in commercial zones but not elsewhere. The Zoning Ordinance revision has addressed this and proposes to allow live-work uses in most of the City's industrial zones, which are extensive. A use permit would still be required; however, this revision would make available a much wider range of areas and would allow for the adaptive re-use of industrial areas for combined residential and work uses. Further examples of potential constraints in the existing Zoning Ordinance are discussed under "codes and standards" (below).

The California Subdivision Map Act makes virtually all real estate division in Richmond subject to city review. It gives the city broad power and responsibility to guard against improper development. A subdivision must be denied if it is inconsistent with the city's General Plan (or any applicable Specific Plan), if the site is not physically suitable for the proposed density and type of development, or if the proposal is likely to cause substantial environmental damage.

A section of the City's Subdivision Ordinance deals specifically with the conversion of existing rental residential properties into condominiums. The main thrust of this article is to protect the City's residential rental supply and the rights of tenants.

Environmental impact review is often an expensive and time-consuming process, and yet it is a requirement of State law and performs a critical function by allowing for local public review of the potential adverse impacts of new developments. State mandated regulations call for very detailed documentation, analyses and public participation requirements in the determination of environmental impacts and their mitigation. State law also requires consistency between the General Plan and zoning for each proposed development.

Richmond has imposed no growth limitations, growth management plans, or annual development "quotas," each of which could unduly restrict or constrain new housing development. The City, in other words, has no locally imposed restrictions on the supply of new housing.

The very high rate of new housing construction in Richmond in recent years (over 6,600 new housing units built in the 12 years from 1980 through 1991) is a strong indicator of the favorable

conditions in Richmond for new housing development. A severe shortage of available land in the San Francisco region, combined with local growth restrictions, are major factors in the soaring prices of land and housing in the region. Due to its relative lack of constraints on new development, Richmond has probably absorbed some of the stifled demand from other jurisdictions in the region.

The City's Planning Department staff has noted that in probably 95% of all cases, developers bring in housing development proposals that call for fewer units per acre than the allowable zoning capacity of the land -- for their own reasons.

Codes and Standards. Various existing design regulations and standards in the existing Zoning Ordinance may act as constraints on affordable housing development, and are being addressed in the City's Ordinance revision.

Existing parking requirements have frequently acted as a limiting factor in terms of density. The requirements, for example, don't have smaller parking stall sizes for compact cars. The draft Ordinance revision would address compact car stall sizes; allow for "tandem" parking; eliminate the need for a use permit in some cases; and lower some parking stall ratios, particularly in the case of large multifamily projects.

Existing setback requirements for corner lots in infill situations may constrain the amount of buildable lot area, and are being modified.

Current regulations governing second units in single family residential areas are quite restrictive in terms of size; and they require the second unit to be directly attached to or within the existing dwelling. The revised Ordinance proposes loosening the size requirements and would allow detached second units. This could potentially generate a significant increase in the construction of second units in Richmond, thereby providing affordable smaller dwellings for one or more persons, more low-cost rental housing, and more efficient use of the City's residential areas.

The City's street standards are currently fairly rigid in terms of width requirements and sidewalk requirements. These standards could be made less rigid and reduced, thereby cutting down the cost of improvements and potentially allowing for more dwelling units. The City staff will explore possible ways to reduce the standards where feasible and make them less rigid.

Enforcement of building codes, while curing code violations, may have a negative impact on preserving a city's existing affordable housing stock. In the latter half of the 1980s the City of Richmond carried out a vigorous program of code enforcement of substandard rental housing structures having serious and hazardous code violations. A number of hazardous and dangerous buildings

were demolished as a result of City code enforcement and abatement activity, displacing low-income tenants in some cases. City code enforcement and abatement continues but is now combined with relocation services available to tenants and rehabilitation loan assistance offered to the absentee landlords. (See Code Enforcement, Abatement and Relocation program and Abatement of Substandard Buildings Project, in the implementation section of the Housing Element, in Volume I of the Richmond General Plan.)

Fees and Other Exactions. Richmond's development fees appear to be in the low to middle range compared to other cities in the region. In a 1991 survey the Building Industry Association of Northern California identified Richmond as one of four cities (including Pittsburg, San Francisco and Oakland) whose fees average less than \$7,500 per single family detached unit. The BIANC survey noted that fees are generally lower in older, more densely developed areas (including Richmond); while in outlying areas lacking basic urban infrastructure the fees are often much higher.

Based on the reactions of most applicants, the City of Richmond fees seem not to constitute a major barrier to new housing development. This appears to apply to both building permit and planning approval fees, as well as the City's growth impact fees. Planning Department staff has noted that fees do not appear to be a major factor in decisions to build in Richmond. Housing developers often will choose to build lower-density, upper income homes because they are seeking higher profits, not because of high fees and exactions.

City building permit, processing, and "growth impact" fees, however, can constrain affordable housing projects, especially for smaller developers, nonprofit groups, and lower income individuals. The City Council addressed this by adopting a policy in 1989 allowing for the waiver of City fees for developers of low and moderate income housing. The Housing Element implementation section (Volume I of the Richmond General Plan) proposes to target this waiver of City fees to projects providing units affordable to Very Low and Low Income persons.

Also in 1989, the City Council adopted a comprehensive revised schedule of all city fees and charges for services. Most fees and charges were increased, and the increases were based on a major consultant study that showed that the city's fees were obsolete, and in many cases covered only a small percentage of the actual costs to the City to provide the service. The Building Regulations staff noted that the increase in the "base fee" for minor permits appeared to be a hardship often for persons with small incomes such as the elderly.

The increased City fees may act as a constraint in some cases, resulting in citizens deferring property improvements, choosing not to make repairs, or making improvements and repairs without city

permit, possibly resulting in unsafe and hazardous living conditions. It appears unlikely, however, that the City Council would reduce the fees and charges for services, based on the overall budget constraints and the Council's adopted policy to collect the actual costs in staff time and resources to provide city services that benefit specific individuals and households. At the same time, the Council chose to "subsidize" up to 50% certain fees and charges on the city's fee schedule, items which in their judgment could have resulted in financial hardship to the user groups.

The City of Richmond does not have a citywide growth impact fee. A public facilities fee is imposed on any new development within three specific "development areas" -- El Sobrante, Brickyard Cove, and Pinole Point/ Hilltop. Any new residential or commercial developments outside of these three geographic areas, however, are not charged a growth impact fee by the City.

A 1988 study of fees in the San Francisco Bay Area (Taxing the American Dream: Development Fees and Housing Affordability in the Bay Area, Bay Area Council, May 1988) indicated that Richmond's total fees per single family unit were the second lowest of the cities surveyed in Contra Costa County -- assuming that the unit was not located within one of the City's specific public facilities fee areas.

The Richmond Unified School District has imposed a school facilities fee on all types of new development in the City. The fee amount is the maximum permitted by State law. According to the City's Building Regulations Division staff, applicants for building permits have frequently complained about the high cost of the school facilities fee.

Local Processing and Permit Procedures. City Hall in Richmond has a generally good reputation for reasonably quick and efficient processing of development and building applications and permits. The City intentionally streamlined its operations, including setting up one continuous open counter on the second floor of City Hall combining Planning Department and Building Regulations (Public Works Department). This functions, in effect, as a "one stop center" for applicants.

A Design (Development Review) Ordinance was written in 1986 with, among other things, particular attention given to streamlining the design review process.

In 1990 City Council members and the Planning Department began to explore the possibility of removing the Controlled Development (CD) designation or "overlay," which has been applied in the City's Zoning Ordinance to extensive areas. Removing the CD designation could potentially make the approval process quicker and less burdensome for applicants and developers.

Nongovernmental Constraints

Cost of Residential Land. In the City's 1985 Housing Element the average raw residential land cost per acre in West Contra Costa County was estimated at \$20,000 in 1980, which is equivalent to 46 cents a square foot. In 1990 residential land costs in Richmond were estimated by the Real Estate Division of the Richmond Redevelopment Agency to range from \$2.50 to \$4.50 a square foot in the City's distressed neighborhoods; from \$4.00 to \$6.00 in Central Richmond east of 23rd Street; and from \$10.00 to \$15.00 and possibly much higher per square foot for shoreline areas such as Point Richmond and Brickyard Cove, depending on availability of marine views.

The current estimated land prices, therefore, may have increased by a factor of at least 8 or 9 times since 1980. To a certain degree this is a function of inflation; however the net result is that land prices are now clearly a constraining factor in the development of new housing, especially affordable housing in Richmond.

A relatively large affordable housing project in Richmond's City Center area, one of the distressed neighborhoods, was in the approval stage in 1990. The land was purchased at a reduced price from the Redevelopment Agency -- \$2.35 per square foot for the rental apartment units. For the project's townhouse for-sale units, a 100% write-down of the land cost was provided. According to Bridge Housing Corporation, the developer, the depressed land price was critical to the project's ability to produce affordable housing units -- and this is even within one of the city's depressed neighborhoods. The developer's conclusion was that land price plays a big role in the affordability of new housing units in Richmond.

Cost of Construction. Residential construction costs have risen rapidly in the San Francisco Bay Area, particularly since 1985. The Bay Area Council in its September 1990 Housing and Development Report reported the following cost estimates:

 TABLE D-21
 RESIDENTIAL CONSTRUCTION COST PER PERMIT, 1980-1989, IN CONSTANT
 1988 DOLLARS, SAN FRANCISCO BAY AREA

	1980	1983	1985	1989	% Increase 1985-89
All units	\$ 88,000	\$ 80,000	\$ 70,000	\$102,000	46%
Single Family Units	\$100,000	\$100,000	\$100,000	\$125,000	25%
Multifamily Units	\$ 67,000	\$ 55,000	\$ 45,000	\$ 62,000	38%

Source: Construction Industry Research Board. Value of construction corrected for inflation with Bay Area CPI, all items. Reported in Bay Area Council, Housing and Development Report, September 1990.

As the Table indicates, all three categories experienced a sharp rise in construction costs since 1985.

Richmond is within the "inner Bay Area" and therefore is likely to have relatively higher construction costs than the more outlying areas of the region. Furthermore, Richmond has been and continues to be a strong union town, a second major factor resulting in relatively higher costs of construction.

Bridge Housing Corporation estimated that construction costs for its affordable housing project in Richmond's City Center, slated for construction in 1992, would be \$60,000 per unit for the for-sale 2- and 3-bedroom townhomes, and \$50,000 per apartment unit in the large scale multifamily component. These cost estimates were for "hard" construction costs only -- materials and labor, not land, fees, or financing costs. The total costs (all cost factors) were estimated at \$95,000 to \$105,000 for the townhome units and \$80,000 for the apartment units. The project involves below-market rate financing, a key to making the units affordable. The developer noted that, because construction costs in Richmond are quite high, units affordable to Low Income persons could not have been achieved with market rate financing.

Further discussion of housing construction costs is provided in the section titled "Analysis of Assisted Housing Units at Risk of Conversion." There it is noted that the average cost (land and construction) to replace units in Richmond's assisted housing projects at risk of conversion is estimated at \$46,250 to \$67,500 per unit. This would be for rental units in multifamily projects in the City's low-income neighborhoods.

The conclusion that can be drawn from the above analysis of land prices and construction costs is that, even in Richmond's distressed neighborhoods, it appears that some form of subsidy - whether in land cost, financing costs, waiver of fees, construction costs (for example, the Habitat for Humanity "sweat equity" approach) or other form of subsidy - appears to be necessary in order to produce for-sale units affordable to Very Low and Low Income families. In the "Definition of Income Categories" given at the beginning of the Appendix it is estimated that Low Income 4-person families in Contra Costa County in 1992 could only afford to purchase a home up to \$102,200 in value.

When this \$102,200 "rule of thumb" figure is compared to the Bridge Corporation estimate (above) of \$95,000 to \$105,000 in total construction costs per unit, a heavily subsidized project in a distressed area, the conclusion is apparent that new for-sale housing units affordable to Very Low and Low Income families in Richmond can only be created with one or more subsidy factors built in. On the other hand, new rental units in large multifamily projects that are affordable to Low Income (and perhaps Very Low Income) families are more attainable because of the cost differential. This was demonstrated by the Bridge Housing project cost figures and the cost estimates for replacing "units at risk," referred to above.

INVENTORY OF LAND SUITABLE FOR RESIDENTIAL DEVELOPMENT

This section provides an inventory of land suitable for residential development in Richmond, both public and private. It includes a summary of vacant residential land in acres and potential number of units. The data are based on a citywide field survey of existing land uses conducted in 1989 by the Richmond Planning Department.

A summary of the findings of the land inventory is as follows:

1. The inventory identified 750 acres of vacant land with residential development potential, which could result in a potential estimated 7,400 new housing units.
2. The data do not reflect potential residential development which is permitted and may occur (a) within areas zoned for commercial uses or (b) through rezoning of non-residential sites.
3. Most of the vacant land is privately owned.
4. Infrastructure and public services are available for virtually all vacant residential land parcels in Richmond. Most of the sites have utilities available or nearby, but must provide interior distribution systems. Infill sites and the publicly owned sites are already fully provided with utilities.
5. Many of the major parcels are suitable for either multiple family dwellings or a combination of single-family and multiple-family dwellings. Infill parcels are generally suitable only for single-family or two-family units.

Land suitable for residential development in Richmond, California and available during the 1990-95 period is outlined in two tables. Table D-22 shows Residential Development Potential By Zoning Categories in Richmond and is based on a citywide existing land use field survey conducted by the Planning Department in 1989, and on zoning categories that applied in 1991. Table D-23 is a supplementary table showing potential major private and public sites for new housing. These major sites are mapped on Figures D-3 and D-4.

Tables D-22 and D-23 list vacant residential land and potential sites within the incorporated City limits only. A general summary and definition of zoning districts in the City is provided in Table D-24.

As Table D-22 indicates there are 750 acres of vacant land which could accommodate an estimated 7,400 housing units. (Note: the City's regulations permit residential development in several commercial districts, and this potential is not included in these data.)

The State law asks each Housing Element to address specifically the land areas and sites available for particular types of housing and shelter: single family; multiple family and rental; manufactured housing; emergency shelters and transitional housing; and the zoning designations within which these housing types can be constructed.

The City of Richmond Municipal Code (RMC), Chapter 15, governs most land use siting decisions. The RMC addresses the various housing types as follows:

1. Single Family Residential: Single family residential structures are allowed in all four residential zoning districts (including multiple family) in the City. Notably, under the RMC the relatively low minimum lot sizes of 5,000 square feet are a critical factor in promoting affordability and keeping housing costs at an acceptable level.
2. Multiple Family Residential: The RMC contains three multiple family zoning districts providing densities ranging from 400 square feet of lot area per unit to 1,800 square feet of lot area per unit. As Table D-22 indicates, there is a potential for several thousand additional housing units on the currently vacant land in these three zoning districts combined. In addition, the RMC provides for multiple family developments in the City's commercial zoning districts.
3. Manufactured Housing: In accordance with recent State legislation the City of Richmond amended the RMC to treat manufactured housing, in terms of siting standards, exactly the same as any other type of construction. This action promotes affordability and ensures the widest possible range of housing opportunities for Richmond residents.
4. Emergency Shelters and Transitional Housing: The RMC governs the siting of emergency shelters for the homeless and transitional housing in the City. Emergency shelters are allowed in General Commercial (C-2) and Central Business (CM) Districts subject to a Conditional Use Permit. In 1989 Richmond had over 200 vacant land parcels and an estimated 44.6 acres of vacant land zoned for C-2 or CM district uses. This potential land area could be augmented through adaptive re-use of existing sites and structures throughout the City's C-2 and CM districts.

Transitional housing units in multifamily structures are permitted in all commercial zones and in all residential zones except for R-1. As Table D-22 indicates, there were an estimated 77 acres of vacant land in Richmond

zoned for residential use excluding R-1 uses in 1989, representing more than 4,300 potential dwelling units. The commercial zones combined had another 49 acres of vacant land. Transitional housing uses in conformity with the RMC are not subject to any standards or requirements that are more restrictive than the other uses permitted in the same zoned area. Depending upon the size and type of operation, however, transitional housing uses not in conformity with the RMC may have use restrictions imposed through a Conditional Use Permit.

A listing of vacant parcels in Richmond in 1989 zoned for residential development, by zoning categories, is available to the public upon request, and at nominal cost, at the Richmond Planning Department. As indicated in the implementation section of the Housing Element (Volume I of the Richmond General Plan), the City intends to update the inventory annually. This inventory includes a listing of commercially zoned vacant parcels where residential development is also permitted.

In addition to normal standards found in the RMC, the City has historically used, and continues to use, its redevelopment powers to encourage reinvestment of some of its older areas. The Marina Bay area is the most salient example of residential redevelopment. Ultimately, it is anticipated that this specific redevelopment area will result in 2,000 new housing units.

TABLE D-22
RESIDENTIAL DEVELOPMENT POTENTIAL***
BY ZONING CATEGORIES
RICHMOND, CALIFORNIA

CITY OF RICHMOND ZONING DESIGNATION	ESTIM. VACANT LAND (IN ACRES)	ALLOWABLE DENSITY	POTENTIAL NO. OF UNITS
PA, PLANNED AREA DISTRICT (APPROVED)	75	**	884
PA, PLANNED AREA DISTRICT (NOT APPROVED)	368	**	510
R-1, SINGLE FAMILY RESID. DISTRICT	52	8.7	453
R-1 CD, SINGLE FAM. RESID. CONTROLLED DEVELOPMENT* DIST.	34	8.7	296
R-1 A6, SINGLE FAMILY DIST. 6,000 SF MINIMUM LOT SIZE	45	7.26	327
R-1 A6 CD, SINGLE FAMILY CONTROLLED DEVELOPMENT* DIST.	15	7.26	109
R-1 A7, SINGLE FAMILY DIST. 7,000 SF MINIMUM LOT SIZE	80	6.2	498
R-1 A9, SINGLE FAMILY DIST. 9,000 SF MINIMUM LOT SIZE	4	4.8	19
RMD CD, MEDIUM DENSITY RESID. CONTROLLED DEVELOPMENT* DIST.	18	24.2	436
R-2, MULTIPLE FAMILY RESID. DISTRICT	18	34.8	627
R-2 CD, MULTIPLE FAMILY RESID. CONTROLLED DEVELOPMENT* DIST.	16	34.8	558
R-3, HIGH RISE RESIDENTIAL DISTRICT	7	108.9	762
R-3 CD, HIGH RISE RESIDENTIAL CONTROLLED DEVELOPMENT* DIST.	18	108.9	1960
TOTAL	750		7439

TABLE D-22 -- NOTES:

- * Richmond's CD ("Controlled Development") District essentially establishes a design review process. However, the Richmond Municipal Code (RMC) allows the Planning Commission to reduce the number of dwelling units permitted to 75% of the maximum permitted in the parent zoning district, or increase the allowed density up to 50% of the maximum allowed in the parent zoning district.
- ** The PA District provides for a "planned area" development process. Consequently, actual densities are established on a case-by-case basis in the context of existing conditions. Numbers of units listed as "approved" reflect projects which have already received necessary approvals, but are not yet built. Numbers of units listed as "not approved" reflect City of Richmond Planning Department estimates only.
- *** Data in Table D-22 do not reflect (a) potential residential development which may occur through rezoning of non-residential properties; or (b) vacant land in various commercial zoning categories which permit residential development.

Source: Richmond Planning Department, existing land use field survey, July-August 1989. Based on zoning districts current in 1989 through 1992. The 1995 update of the Housing Element will reflect the zoning current at that time, including any revisions since 1992.

RICHMOND, CALIFORNIA:

POTENTIAL MAJOR PRIVATE SITES
FOR NEW RESIDENTIAL DEVELOPMENTEl Sobrante Subarea (Already In City)

SUBAREA/SITE	JURISDIC.	GENERAL PLAN DESIGNATION	EST. NO. UNITS	CURRENT ZONING
Mobile Home Park	City	Suburban Md.	212 Mfg	RIA6
Clark Road	City	Suburban Md.	332 SF/D	RIA9
Mosher II	City	Rural Low	48 SF/D	RIA9
MV Nursery	City	Rural Low	15 SF/D	RIA9
Park Glen Estates	City	Rural Low	360 Acs.*	PA
Creekside Apts.	City	General Comm.	195 MF/A	C2
Sobrante Glen Condos	City	Suburban Md.	60 MF/A	R2CD
SUBTOTAL UNITS: 862				
SUBTOTAL ACRES: 360*				

Hilltop/Point Pinole

SUBAREA/SITE	JURISDIC.	GENERAL PLAN DESIGNATION	EST. NO. UNITS/ACS.	CURRENT ZONING
Hilltop West	City	Urban Low/Spc.Ind.	600 SF/D	M3
		Urban Low/Spc.Ind.	400 SF/A	M3
Pinole Pt. Business Pk.	City	General Ind. **	30 Acs.*	M3
SUBTOTAL UNITS: 1,000				
SUBTOTAL ACRES: 30*				

Point Richmond/Brickyard Cove

SUBAREA/SITE	JURISDIC.	GENERAL PLAN DESIGNATION	EST. NO. UNITS	CURRENT ZONING
Seacliff Villas	City	Urban Low	191 SF/A	PA
Brickyard Landing II	City	Urban Low	71 MF/A	PA
Brickyard Cove I	City	Urban Low	11 SF/D	R1CD
Brickyard Cove II	City	Urban Low	46 SF/A	R1CD
Brickyard Cove III	City	Urban Low	36 SF/A	R1CD
PG&E Tank Site	City	General Comm.	5 Acs.*	M3
Terminal #1	City	Marine Terminal **	13 Acs.*	M3
SUBTOTAL UNITS: 355				
SUBTOTAL ACRES: 18				

Marina Bay

SUBAREA/SITE	JURISDIC.	GENERAL PLAN DESIGNATION	EST. NO. UNITS	CURRENT ZONING
Area EE/Bayside Dr.	City	Urban High	224 MF/A	PA
Area DD/Bayside Dr.	City	Urban High	234 MF/A	PA
Area CC/Bayside Dr.	City	Urban High	234 MF/A	PA
Areas U,W,Y/Penn. Dr.	City	Urban High	147 SF/A	PA
Areas AA,BB/Penn. Dr.	City	Urban High	156 SF/D	PA
SUBTOTAL UNITS: 995				

City Center

SUBAREA/SITE	JURISDIC.	GENERAL PLAN DESIGNATION	EST. NO. UNITS	CURRENT ZONING
Bridge/Memorial Park	City	Mixed Use	65 MF/A	CM
Bridge/Memorial Park	City	Mixed Use	34 SF/A	CM
Bridge/The Carquinez	City	Urban High	36 MF/A	CM
SUBTOTAL UNITS: 135				

Other

SUBAREA/SITE	JURISDIC.	GENERAL PLAN DESIGNATION	EST. NO. UNITS	CURRENT ZONING
Colusa and Modoc	City	Urban Low	26 MF/A	R2CD
SUBTOTAL UNITS: 26				

TOTAL UNITS: 3,373
TOTAL ACRES: 408

Footnotes: * Gross Acreage Estimated By Richmond Planning Department.
** General Plan Amendment Would Be Required.

Potential Public Sites
For New Residential Development

SUBAREA/SITE	JURISDIC.	GENERAL PLAN DESIGNATION	EST. NO. UNITS	CURRENT ZONING
City Center: NW Corner MacDonald & 19th Street	City	Mixed Use (Urban High Density Resid./ Office/Retail)	30	CM
City Center: Machinist Place @ 16th Street	City	Urban High Density Resid.	30	CMCD
SUBTOTAL UNITS: 60				

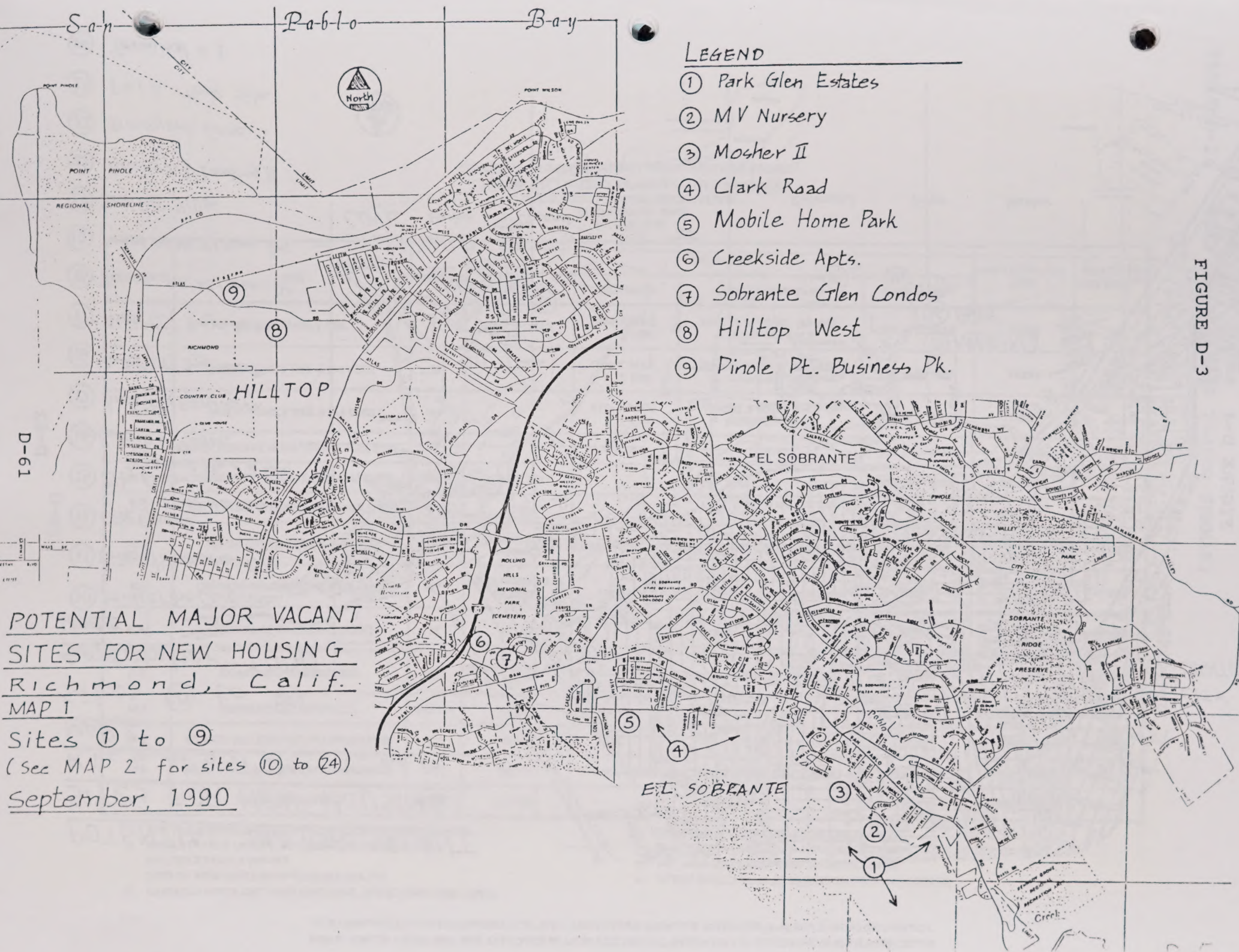


FIGURE D-3

POTENTIAL MAJOR VACANT SITES FOR NEW HOUSING Richmond, Calif. MAP 2

Sites ⑩ to ⑳
September, 1990

LEGEND

- ⑩ Bridge/The Carquinez
- ⑪ Bridge/Memorial Park
- ⑫ City Center
NW Corner MacDonald + 19th
- ⑬ City Center
Machinist Place @ 16th
- ⑭ Colusa & Modoc
- ⑮ Area EE/Bayside Dr.
- ⑯ Area DD/Bayside Dr.
- ⑰ Area CC/Bayside Dr.
- ⑱ Areas AA, BB/Penn. Dr.
- ⑲ Areas U, W, Y/Penn. Dr.
- ⑳ Seadiff Villas
- ㉑ Brickyard Landing II
- ㉒ Brickyard Cove I
- ㉓ PG&E Tank Site
- ㉔ Terminal # 1

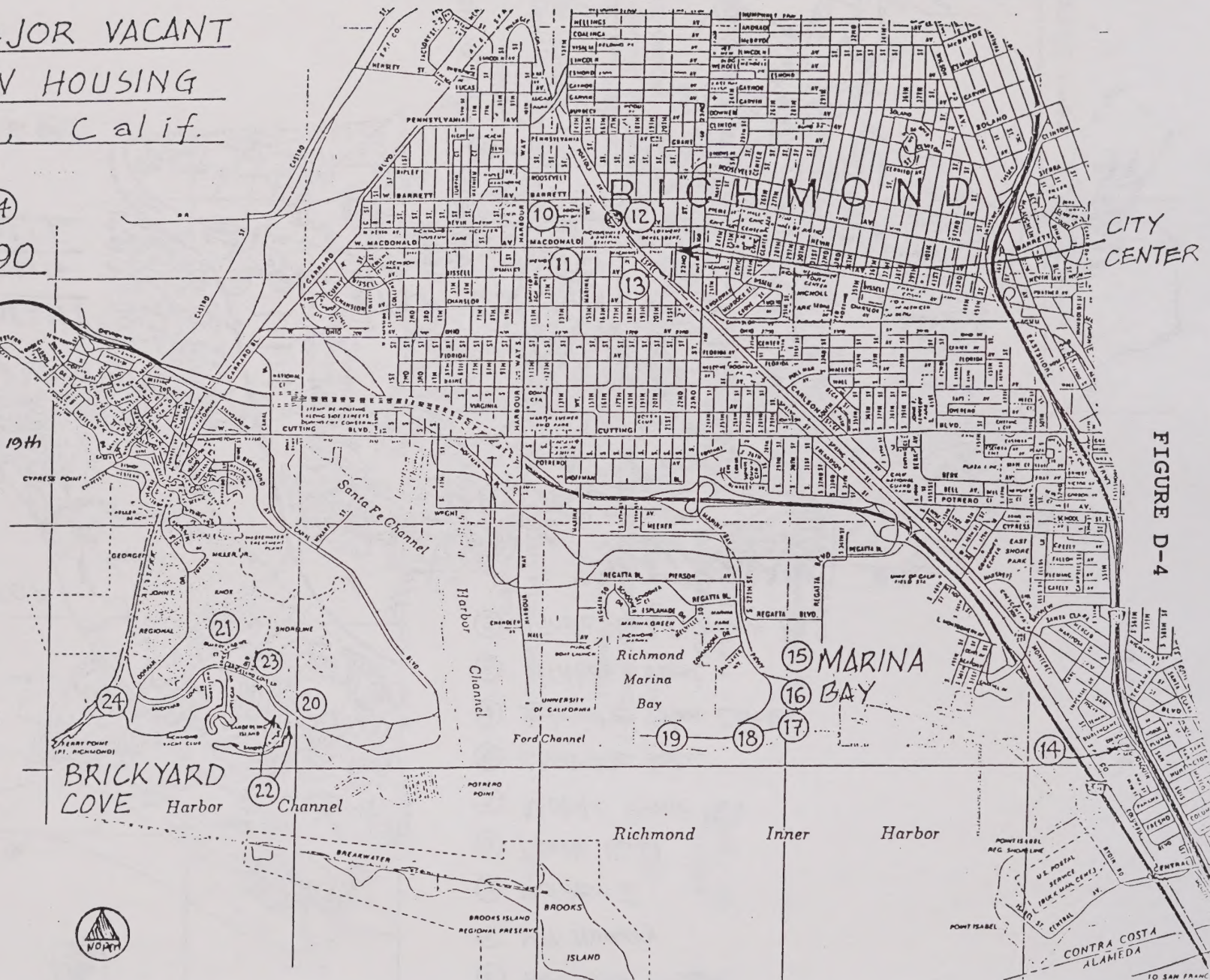


FIGURE D-4

GENERAL SUMMARY OF ZONING REGULATIONS⁽¹⁾
CITY OF RICHMOND, PLANNING DEPARTMENT
 2600 BARRETT AVENUE, SECOND FLOOR
 RICHMOND, CA 94804
 (415) 620-6706

DISTRICT	USE	HEIGHT	SETBACKS				LOT AREA PER UNIT	PARKING PER UNIT ⁽⁶⁾
			FRONT YARD	SIDE YARD	STREET SIDE YARD	REAR YARD ⁽²⁾		
R-1	SINGLE FAMILY RES.	35'	20%; 20' MAX	10%; 5' MAX, 3' MIN	VARIES 5' TO 10', HALF OF FRONT SETBACK	20% or 20' MAX	5000SF	1
R-MD	MED. DENSITY RES. & R-1 USES	35'	15'	10%; 5' MAX, 3' MIN	VARIES 5' TO 10', HALF OF FRONT SETBACK	20% or 20' MAX	1800SF	1.5
R-2	MULTI-FAMILY RES. & R-1 USES	35'	15'	10%; 5' MAX, 3' MIN	VARIES 5' TO 10', HALF OF FRONT SETBACK	20% or 20' MAX	1250SF ⁽⁴⁾	1
R-3	HIGH RISE RES. & R-2 USES, CLUBS, ETC.	75'	10'	VARIES	VARIES	20% or 20' MAX	400SF ⁽⁴⁾	1
C-R	COMMUNITY RESERVE OPEN LAND/SFR	NONE	20%; 40' MAX	10%; 20' MAX		20% or 40' MAX	5 ACRES	2
E-A	EXCL. AGRICULTURE AGRI/HORT. USES	NONE	15'	7.5'		7.5'	0.5 ACRE ⁽⁵⁾	1
C-1	NEIGH. RETAIL COM. & R-3 USES	35' ⁽³⁾	SAME AS ADJ. R-DISTRICT	ONLY WHERE ADJ. R-DIST., THEN: 10%; 5' MAX, 3' MIN		NONE/IT.LMT.	DWELLING USE R-2 STD.	VARIES ⁽¹⁾
C-2	GENERAL COMMERCIAL & C-1 USES	45' ⁽³⁾	ONLY WHERE ADJ. R-DIST	NONE		NONE	DWELLING USE R-2 STD.	VARIES ⁽¹⁾
C-M	CENTRAL BUSINESS & C-2 USES	75'	NONE	NONE		NONE	DWELLING USE R-2 STD.	VARIES ⁽¹⁾
C-C	COASTLINE COMMERCIAL	35' ⁽¹⁾	ONLY WHERE ADJ. R-DIST ⁽¹⁾	ONLY WHERE ADJ. R-DIST. ⁽¹⁾		NONE	NONE	VARIES ⁽¹⁾
M-1	RESEARCH & MANUFACT.	VARIES	VARIES	VARIES		VARIES	NO DWELLINGS	VARIES ⁽¹⁾
M-2	LT. IND.: M-1, CM USES, NO DWELLINGS	75'	NONE	NONE		NONE	NO DWELLINGS	VARIES ⁽¹⁾
M-3	HEAVY IND.: M-2 USES, NO DWELLINGS	75'	NONE	ONLY WHERE ADJ. R-DIST., THEN: 10%; 5' MAX		VARIES	NO DWELLINGS	VARIES ⁽¹⁾
M-S	SPECIAL INDUSTRY	VARIES	VARIES	VARIES		VARIES	NO DWELLINGS	VARIES ⁽¹⁾

1. FOR VARIATIONS AND EXCEPTIONS SEE ZONING ORDINANCE.

2. SINGLE FAMILY 16% IYS (IYS=INTERIOR YARD SPACE).

MULTIPLE FAMILY 20% IYS

LOTS 30' WIDE AND 3,000 SF REQUIRE 25% IYS

3. VARIABLE WHEN ABUTTING AN R ZONE, SEE ZONING ORDINANCE.

4. LOTS 3,300 SF AND/OR 33' WIDE: ONLY 1 UNIT.

LOTS 3,750 SF AND/OR 37.5' WIDE: ONLY 2 UNITS.

5. 140' AVERAGE WIDTH X 100' AVERAGE DEPTH.

6. 10'X20' STALLS WITH ADEQUATE INGRESS AND EGRESS.

FOR CONTROLLED DEVELOPMENT (CD), SPECIAL FEATURE ADDITIVE DISTRICTS (A-F), SEE ZONING ORDINANCE
 FOR PLANNED AREAS (PA), THE APPROVED PLAN IS THE ZONING, REFER TO THE REZONING (R-Z) FILE SPECIFIED

EVALUATION OF RICHMOND HOUSING PRODUCTION VS. OBJECTIVES 1985-1990

New Construction

1980-1990 Ten-Year Period: Actual New Construction vs. Regional Need Allocation. Richmond's share of the San Francisco Bay Area regional housing need for 1980-1990 was determined by ABAG (the Association of Bay Area Governments) to be 6,396 housing units (ABAG, Housing Needs Determinations: San Francisco Bay Region, December 1983).

During the ten-year period from January 1980 through the end of 1989 a net total of 5,044 housing units were added to Richmond's housing stock. This is 78.9% of the regional need figure. (Note: net added housing units is the total new units constructed, minus the number of units demolished, converted to another use, or otherwise subtracted from the available housing stock. 5,243 housing units were actually built in 1980-1989. At the same time an estimated 199 units were demolished, converted, or moved out of the area.)

ABAG had also distributed Richmond's share of the regional housing need among four income categories -- Very Low, Low, Moderate, and Above Moderate Income; this income distribution was revised by Richmond City Council Resolution. The actual new construction in Richmond: (1) achieved or surpassed the Very Low and Moderate Income need figures for 1980-1990; (2) came close to achieving the Low Income need figure; and (3) fell short of the Above Moderate Income need figure. This is shown in Table D-25.

TABLE D-25
1980-1990 ACTUAL NET ADDED HOUSING UNITS vs.
REGIONAL NEED ALLOCATION BY INCOME DISTRIBUTION:
RICHMOND CALIFORNIA

	INCOME LEVELS:				TOTAL
	Very Low	Low	Moderate	Above Moderate	
1980-1990 Regional Need Allocation*	178	409	1976	3831	6396
Actual Net Added Units 1980-89 **	230	378	2006	2430	5044
Difference	+52	-31	+30	-1401	-1352

* Income allocation as revised locally. ABAG's income allocation of Richmond's share of the 1980-1990 regional housing need was revised locally by the Richmond City Council in October 1983. This local revision was not accepted by ABAG. However, similar adjustments in the income allocation of Richmond's regional housing needs share, based on the same methodology, were accepted by ABAG in 1982 and again in 1989.

** Source: Building permit completion records, Building Regulations Division, Richmond Public Works Department. Units constructed were distributed among income categories based on (a) current actual housing cost data for Richmond neighborhoods and new subdivisions combined with (b) census tract level family income data from the 1980 U.S. Census.

1985-1989 Five-Year Period: Actual New Construction vs. Housing Element Objectives. The City of Richmond in its May 1985 Housing Element set the following objectives for new construction:

TABLE D-26
RICHMOND NEW HOUSING OBJECTIVES FOR 1985-1989
BY INCOME CATEGORY

Type	Target Groups	Very Low	Low	Moderate	Above Moderate	TOTAL
Owner	Family		30	4300 "Market Rate"		4330
Rental	Family		123	369 "Market Rate"		492
Rental & Family	Elderly	178				178
TOTAL		178	153	4669 "Market Rate"		5000

The actual net housing units added in Richmond in the 1985-1989 five-year period totalled 3,798. This is 76% of the City's objective of 5000 net new units.

Table D-27 shows the actual added housing units, distributed by income categories (based on the same data sources described for Table D-25 above) and by owner or rental type.

TABLE D-27
1985-1989 ACTUAL NET ADDED HOUSING UNITS
BY TYPE OF UNITS & INCOME CATEGORY: RICHMOND, CALIFORNIA

Unit Type/Income	Very Low	Low	Moderate	Above Moderate	TOTAL
Owner	16	10	310	1446	1782
Rental	202	154	1620	40	2016
TOTAL	218	164	1930	1486	3798

A comparison of Tables D-26 and D-27 indicates that the 1985-1989 net new construction of housing units in Richmond (a) exceeded the City's five-year objective for both the Very Low and Low Income categories; and (b) fell short of the City's "market rate" (Moderate & Above Moderate Income) housing objective by 1253 units.

Evaluation

Overall Units Added. In Richmond during 1980-1989 a total of 5048 net housing units were added -- amounting to 79% of the City's share of the regional need for the same period. (See Table D-28.)

One major factor in the shortfall in housing production was the national recession of 1981-82. New housing production in Richmond was slow to recover. Only 216 net units were added in 1981, 146 net units in 1982, 207 units in 1983, and 237 in 1984. Starting with 1986, however, over 600 housing units have been added in Richmond in every year except 1988 -- with a high of 1482 built in 1987.

TABLE D-28
HOUSING UNITS BUILT, DEMOLISHED, NET ADDED:
RICHMOND, CALIFORNIA 1980-1989

Year	Total Built	Removed#	Net Added	Net SF*	Net Multiples**
1980	455	- 6	449	421	28
1981	231	-15	216	161	55
1982	175	-29	146	125	21
1983	222	-15	207	168	39
1984	273	-36	237	176	61
1985	496	-42	454	129	325 #
1986	677	-12	665	232	433
1987	1497	-15	1482	263	1219
1988	545	- 9	536	385	151
1989	672	-16	656	381	275

10 YEAR					
TOTALS	5243	-195	5048##	2441	2607

* SF detached and SF attached (townhomes, row houses).

** Apartments, duplexes, condominiums.

Includes 241 MF condominium for sale units in Brickyard Landing.

Differences in totals between this and other tables in the Appendix are due to minor differences in tabulation and data sources.

Note regarding Net Multiples: This figure includes two large condominium for sale projects: Hilltop Villages (176 condo units) and Brickyard Landing (241 condo units). Several large multifamily

rental housing projects in Richmond were registered as condominium units on their building permits: Hilltop Bayview Apartments (1008 rental units in 1987); Marina Cove Apartments (224 units in 1986); and Marina Shores Apartments (244 units in 1988-89).

Rental vs. Owner Units. A comparison of Tables D-26 and D-27 also shows that in the 1985-89 five-year period 1782 ownership units were built compared to a goal of 4330. However, 2016 rental units were built compared to a goal of 670. This difference is largely due to the construction of the 1008-unit Hilltop Bayview Apartments (Moderate Income) in 1987, a project which was not anticipated by the City when it set the 1985-1989 objectives.

Furthermore, in the early 1980s the rental housing market in the Bay Area (including Richmond) was relatively weak. Most consumers were looking for ownership units. Consequently the City set a relatively low rental housing objective in its 1985 Housing Element. In actuality, the rental housing market improved considerably in the region in the latter half of the 1980s. This was clearly the case in Richmond as well, as Table D-28 indicates: the amount of multiples being built shot up dramatically starting with 1985 and has remained strong through 1989. The new rental housing has included large, attractive Moderate Income apartment complexes marketed as "Luxury Apartments" both at Hilltop (Hilltop Bayview Apartments) and at Marina Bay (Marina Cove & Marina Shores Apartments).

Production of Moderate & Above Moderate Income Units. Aside from the impacts of the recession in the early 1980s, the shortfall in Richmond's total housing construction compared to the regional share figure is most likely due to individual private developer decisions, not city policy, city actions or lack thereof. Moderate and Above Moderate Income housing is almost entirely constructed by private sector developers. The ten-year shortfall was 1371 units in these two income categories. At the same time the local government policy (from 1984 on) was to work toward "balancing" the Richmond housing stock (i.e. reduce the percentage of lower income households and increase the percentage of higher income households) by concentrating new housing efforts on market rate housing (Richmond 1984 Housing Element). However, a number of large subdivisions obtained development approvals from the City during the 1980s but did not build out their projects. Additional factors also affected the rate of new housing construction in Richmond in the 1980s, such as the toxic soils cleanup in the Marina Bay area, which delayed considerably some large market rate housing projects.

Based on the above discussion, the 1985 Housing Element goals, objectives, and policies with respect to meeting the needs for market rate housing appear to have been generally appropriate and effective. Market rate housing developers in Richmond have not raised any serious major concerns about city policies allegedly

affecting or blocking their ability to develop new housing in Richmond. In fact, the City has approved annexations as well as several large residential subdivisions in El Sobrante Valley, an environmentally sensitive hilly area where additional growth and development has become a controversial matter.

Environmental review of projects, including EIRs, is sometimes viewed as an impediment and an extra expense, but it is also recognized as a requirement of State law -- not a local imposition. Richmond's growth impact fees ("public facilities fees") are recognized as being well within the range of other East Bay and Contra Costa cities, and the fees do not appear to have impeded residential development.

Production of Very Low & Low Income Housing Units. In contrast to the largely market-driven Moderate and Above Moderate Income categories, the production of housing for the Very Low and Low Income household categories is more dependent on local, State and Federal government programs, subsidies, and other resources. In these two income categories combined, however, actual production of new housing units in Richmond exceeded both (a) the regional share allocation for 1980-1990 and (b) the City's five-year objectives in its 1985 Housing Element (see Table D-29).

TABLE D-29
PRODUCTION OF VERY LOW & LOW INCOME
HOUSING UNITS IN RICHMOND, CALIFORNIA 1980-1990

	<u>Very Low</u>	<u>Low Income</u>	<u>Very Low & Low Combined</u>
1980-1990 Regional Need Allocation	178	409	587
1980-1989 <u>Actual</u> Net Units Added	230	378	608
1985-1989 Objective- 1985 Hsg. Element	178	153	331
1985-1989 <u>Actual</u> Net Units Added	218	164	382

A large portion of the Very Low Income units produced in Richmond were provided by one Federally funded U.S. Department of Housing & Urban Development (HUD) project, the 143-unit Nevin Plaza elderly public housing apartment complex built in 1986. These 143 units represented over 60% of the Very Low Income units built in Richmond in the 1980s. During the same decade, however, the HUD budget was

greatly reduced, and since 1986 HUD has not provided funding for any additional large-scale Very Low or Low Income projects in Richmond. And HUD is not realistically expected to do so in the foreseeable future, according to local housing officials. Federal financing of the Nevin Plaza apartment complex, in fact, resulted not from a recent HUD commitment but from a long-standing HUD commitment, dating from the early 1970s.

Based on the actual accomplishment, it appears that Richmond's Housing Element goals, objectives, and policies with respect to Very Low and Low Income housing have been generally appropriate, and effective enough to the point that previously set quantitative goals have been met or exceeded.

However, in view of the acute need for additional Very Low and Low Income housing units both locally and regionwide, it is appropriate to re-evaluate the City's goals and policies and consider strengthening them if feasible.

Appropriateness of Richmond's Housing Goals, Objectives and Policies. How effective has Richmond's Housing Element been in achieving the community's housing goals and objectives?

The City's policy in its 1985 Housing Element to seek to "balance the value of housing and the income of residents in Richmond to more nearly approximate the local market area" by concentrating new housing efforts on market rate housing appears to have been appropriate for its time. Moreover, it appears likely to be carried out by 1995.

Richmond historically has been impacted by more than its fair share of lower income households. In 1980 the City's Very Low and Low Income households made up 51.4% of all Richmond households, compared to 34% for Contra Costa County and 40% for the region as a whole.

Consistent with its policy to balance the housing stock and with the State law, which provides that the distribution of the regional housing need to localities "shall seek to avoid further impaction," the City Council in December 1988 adopted a revised income distribution of Richmond's share of the 1988-1995 regional housing need. This revised income distribution was accepted and adopted by ABAG, the regional council of governments for the Bay Area. This distribution, moreover, if achieved will by 1995 bring the City's housing stock fairly closely in line with the region: 40% Very Low and Low Income households for Richmond, as compared to 39% for the region, and 34% for Contra Costa County.

Even in 1990 Richmond's share of subsidized and lower income housing units is disproportionately high. The Bay Area Council reported in the May 1990 issue of its Housing & Development Report that 11.35% of Richmond's total households were subsidized

households -- which is the highest percentage of any medium or large sized city in the San Francisco Bay Area (see Table D-30).

Table D-30 combines the Bay Area Council's data on subsidized households with the 1990 estimated population and households for each city.

 TABLE D-30
 SAN FRANCISCO BAY AREA CITIES WITH
 THE HIGHEST PERCENTAGE OF SUBSIDIZED*
 HOUSEHOLDS - 1990

<u>City</u>	<u>1990 Pop. Estimate</u>	<u>1990 Total Households</u>	<u>Percent of Households Subsidized</u>
Brentwood	7,060	2,440	13.43 %
San Pablo	21,612	8,816	11.36
RICHMOND	84,344	32,447	11.35
Oakland	357,600	n/a	10.06
Gilroy	30,000	n/a	9.95
Pittsburg	45,663	15,785	8.88
Martinez	30,999	12,279	8.72
Mill Valley**	13,450	n/a	7.93
San Rafael**	47,100	n/a	6.18
Vallejo**	107,200	n/a	6.16
Antioch	62,032	22,154	6.11

* Total subsidized households = the number of HUD Section 8 Certificates or Vouchers plus the number of lower income subsidized units.

** For these cities, subsidized units include some subsidized moderate income units.

Source: Bay Area Council, Housing & Development Report, May 1990; State of California Finance Department (1990 population and household estimates).

At the same time, however, the regional and local need for low-cost housing affordable to Very Low and Low Income families and individuals has become increasingly acute -- particularly since the mid-1980s. A major factor has been the dramatic rise in home prices and rents (relative to incomes) in the Bay Area, accompanied by sharply increased land and construction costs, a continuing high rate of migration into the region, a shrinking supply of affordable units made worse by the October 1989 earthquake, and a growing homeless population. In Richmond, for example, despite ongoing City and local community efforts to increase the supply of affordable housing, the need for low-cost housing appears to be increasing based on the Richmond Housing Authority's waiting list

of 3-5 years or more (over 3,800 applications for HUD Section 8 subsidies on file as of December 1990) and the visible evidence of a growing homeless population on the streets.

The City, consequently, has not been able fully to meet its Housing Element goals, for example (1) the goal to "Ensure that a fair share of market area residents are able to obtain a variety of standard dwelling units...at a price they can afford"; and (2) the goal to "Provide opportunities for all segments of the community to own their own home."

In recognition of these trends and of the acute need for low-cost housing, the City's Housing Element does the following:

Definition of "Affordable Housing": First, Richmond in its Housing Element has defined "Affordable" as affordable to Very Low and Low Income households. This is likely to be different from many other Bay Area cities, who may interpret "affordable" as applying to Low and Moderate Income households. Given the difficulty of producing low-cost housing in the San Francisco Bay Area region, it is a great deal more difficult to produce housing affordable to Low and Very Low Income households than to Moderate Income households. A Low Income family of 4 has a current income threshold in Contra Costa County of \$37,450 while the income limit for a Moderate Income family of 4 is \$56,150 (based on HUD May 1992 income limits).

While choosing to target the Very Low and Low Income categories in its Housing Element and in its affordable housing program efforts, The City does not intend, however, to overlook or neglect the needs of Moderate Income families. It is simply a matter of fact that greater efforts have to be made by the local government, in combination with other resources such as community nonprofit housing developers and Federal and State programs, in order to increase the supply of housing affordable to Low and Very Low Income persons.

Policies: Secondly, the Element contains several policies designed expressly to increase Richmond's affordable housing stock -- the supply of rental or ownership units that are affordable to Very Low and Low Income families and individuals. These policies include:

- o A policy requiring housing developers to include a certain proportion of affordable units in the project;
- o Several policies specifically targeted to promoting infill affordable housing and committing the City to help local nonprofit groups to build infill housing;
- o Waiving of building permit and other fees for projects providing affordable housing;

- o A policy to discourage downzoning from medium and high density to low density residential; and
- o A policy to include an affordable housing component in any new or expanded city redevelopment area.

Quantified Objectives: Thirdly, Richmond's Housing Element sets a substantially higher quantitative objective for Very Low or Low Income units to be added to the City's stock, than in the previous (1985) Element. The objective in the 1985 Element was 331 Very Low or Low Income units; the objective in the current Element is 500.

Rehabilitation

Owner

A. Home Improvement Loan Program (for Lower Income Families).

Financing Source: CDBG (HUD Community Development Block Grant funds); HUD 312 program funds.

1985-89 Objective: 250
Actual: 350

Objectives were exceeded because of intense marketing efforts and because of unanticipated rehabilitation funds.

B. Neighborhood Housing Services Program.

Financing Source: CDBG; Neighborhood Reinvestment Corporation; NHS Corporation of America; and private foundations.

1985-89 Objective: 50
Actual: 14

Program objectives were not met for several reasons:

- a) A change in program priorities;
- b) The number of loans which could be sold on the secondary market was insufficient to generate additional rehabilitation revenue; and
- c) Duplication of rehab services offered by the City. City staff has comprehensive inspection, financial and other support services that NHS could not provide to its clients; therefore NHS could not compete in terms of cost effectiveness.

Rental

A. Lower-Income Rental Rehabilitation Program.

Financing Source: CDBG; CHFA; Rental Rehabilitation Program; HUD Section 8 Moderate Rehab.

1985-89 Objective: 250
Actual: 183

Objectives were not met as a result of insufficient funding to assist the number of units projected. The City expended all available financial resources.

Other (Owner and Renter Programs Combined)

A. Default & Delinquency Counseling.

Financing Source: CDBG; HUD Housing Counseling funds.

1985-89 Objective: 640
Actual: 913

This program involved both owners and renters who were defaulting on their rents or mortgages. The program objective was exceeded because many referrals were made from other agencies or individuals -- HUD, other counseling agencies, word of mouth, Legal Services Foundation, etc. Because Richmond is among the limited number of HUD certified counseling agencies in the area, many defaulting mortgagors must begin preliminary paperwork with this office.

B. Code Enforcement Relocation.

Financing Source: CDBG.

1985-89 Objective: 15
Actual: 5

The Code Enforcement Relocation Program only provides assistance to residents who are displaced as a result of CDBG initiated code enforcement activities. The number of families relocated is misleading because it does not count those families who were temporarily relocated while their unit was being rehabilitated. More importantly, staff had anticipated that the program would operate in conjunction with the Abatement of Dangerous Buildings Program. The Abatement Program did not get underway as anticipated because of the lengthy legal process required by law, and because the manpower needed to implement the program was not available until 1989.

C. Code Enforcement.

Financing Source: CDBG.

1985-89 Objective: 1,000
Actual: 762

Code enforcement activities are related to several programs or activities --the HILP, inspector observation, complaints, etc. Objectives were projected based on the level of activity which had occurred in previous years. Cases of code enforcement on residential structures were counted only for those units where a resolution was reached. In addition, priority for enforcing the code was placed on those structures that were in the H&CD Department workload.

D. Rehab of Vacant & Abandoned Structures.

Financing Source: CDBG; private funds.

1985-89 Objective: 30
Actual: 5

This activity actually consisted of the purchase and rehabilitation of vacant and abandoned structures. The program was subcontracted to two nonprofit organizations. The sole source of public funds used to carry out the activity was the City's CDBG funds. A lack of available units for purchase at reasonable costs hampered the City's ability to reach the goal. In addition, the units which were rehabilitated were resold to lower-income first-time homebuyers. In order to make these units affordable to this segment of the population, a loss was incurred on most of the units purchased and rehabilitated, resulting in insufficient funds to revolve to purchase and rehabilitate additional units.

E. Demolition of Vacant & Abandoned Structures.

Financing Source: City general revenue

1985-89 Objective: 30
Actual: 83

Units demolished were severely substandard and were a threat to the health and safety of surrounding neighborhoods. Little or no maintenance work had been performed in years. Owners of such properties were unwilling to invest in the restoration of the buildings and for the most part were not interested in securing a loan to rehabilitate. In addition, in cases where it may have been feasible for the City or one of its agents to purchase the property, owners preferred to have the structure demolished rather than sell.

Sixty-three (63) of the 83 housing units demolished in the City were located in target area neighborhoods. These are located in Census Tracts 3650.01, 3650.02, 3720, 3730, 3750, 3760, 3770, 3790, 3800, and 3810.

F. Section 8 Existing Certificates/Vouchers Program.

Financing Source: Federal.

1985-89 Objective: 75

Actual: 286

The objective was exceeded because the Housing Authority received unanticipated certificates for unplanned projects, where special requests made to HUD for additional Section 8 Certificates were subsequently granted.

Conclusion: Appropriateness and Effectiveness of City Policies and Programs. In several cases City housing rehabilitation or "other" programs exceeded, or fell short of, the 1985-89 five-year program objective due to either (a) a shortage of program funds or (b) unexpected additional funding and resources becoming available. The City policies and programs themselves appeared to be generally sound and appropriate. Taken together, they represent a range of approaches to rehabilitating and conserving the City's existing housing stock particularly in the older neighborhoods and lower income areas -- while keeping the units affordable to Low and Very Low Income families to the maximum extent possible.

In its Rehab of Vacant and Abandoned Structures Program the City encountered a major obstacle in the general unwillingness of the property owners to sell their properties. The lack of available units for purchase and rehab greatly hampered the program's effectiveness. The City itself does not own a significant amount of residential property; and the areas where it does own property are generally mixed-use neighborhoods where continuing residential use is not desirable.

In implementing the proposed Inclusionary Zoning Program the City will consider offering housing developers the option to meet their affordable housing obligation by restoring substandard housing units to use. This may represent a new and viable way to achieve rehabilitation of existing affordable but substandard housing units.

ANALYSIS OF ASSISTED HOUSING UNITS AT RISK OF CONVERSION

I. Inventory of Units At Risk of Losing Use Restrictions

Tables D-31, D-32, and D-33 on the following pages provide the current (as of September 1992) inventory of assisted multifamily rental housing units in Richmond, California with income restrictions for occupancy, and their "at risk" status.

The ten-year period for the Inventory and analysis in Richmond's Housing Element is July 1990 through June 2000.

The projects have been segregated on the basis of the dates of the earliest potential terminations of use restrictions:

Table D-31 = the July 1990 - June 1995 five-year period;
Table D-32 = the July 1995 - June 2000 five-year period; and
Table D-33 = post-June 2000 projects.

Richmond's inventory of units at risk includes multifamily units in the following categories:

- o HUD Programs:
 - o Section 8 Lower-Income Rental-Assistance project-based programs: New Construction and Moderate Rehabilitation
 - o Section 221(d)(3) BMIR Mortgage Insurance Program
 - o Section 236 Interest Reduction Payment Program
 - o Section 202 Direct Loans for Elderly or Handicapped
 - o Community Development Block Grant Program
- o State revenue bond programs
- o Redevelopment programs.

Richmond has no multifamily rental projects with affordability controls in the following categories:

- o Other HUD Programs (besides the ones listed above)
- o FmHA Section 515 Rural Rental Housing Loans
- o Local revenue bond programs
- o Local in-lieu fee programs or inclusionary programs
- o Developments which obtained a density bonus and direct government assistance.

Sources

Information sources that were utilized in preparing the City's Inventory included: housing program staff from the City of Richmond, Richmond Redevelopment Agency, and Richmond Housing Authority; Contra Costa Legal Services Foundation; owners and managers of local multifamily rental projects with affordability

controls; the U. S. Department of Housing and Urban Development (HUD), San Francisco Regional Office; State of California Department of Housing and Community Development (HCD), Housing Policy Development Division; and the most recent multifamily project printouts and information bulletins provided by HUD and by the State HCD.

TABLE D-31 -- PAGE 1
INVENTORY OF UNITS AT RISK JULY 1990 - JUNE 1995
RICHMOND, CALIFORNIA

PROJECT NAME STREET LOCALITY ZIP CODE	OWNER NAME STREET LOCALITY ZIP CODE	FHA PROJECT # SECTION OF ACT OWNER/TENANT TYPE RENT SUP, FLEX, TPA	LOAN AMOUNT LOAN TERM, INTEREST RATE PROCESSING STATUS FINAL ENDORSEMENT DATE	SECTION 8 CONTRACT # PROGRAM/FINANCE TYPE SECTION 8 TYPE HAP AGREE/EXEC DATE	TOTAL UNITS TOTAL ELDERLY		EARLIEST DATE OF SUBSIDY TERMINATION*	
					FHA	SECTION 8	FHA	SECTION 8
23 ARBORS -- PARKVIEW IV 5233 CREELY AVE RICHMOND 94804	WILLIAM H GALE JR 62 W. NEAL ST PLEASANTON, CA 94566	12155012 221(D)(3) BHIR LD FHM 28JUN66	\$500,300 FINAL ENDRS CURRENT 28JUN66	CA39H000021 EXISTING LHSA 13AUG76	36 0	23 0	28JUN86 (+20)	13AUG91 (+ 0)
24 CRESCENT PARK 5000 HARTNETT AVE RICHMOND 94804	CRESCENT PARK LTD 11812 SAN VICENTE LOS ANGELES, CA 90067	12155017 221(D)(3) BHIR LD FHM 06MAR69	\$6,186,000 FINAL ENDRS CURRENT 06MAR69	CA39H000004 EXISTING LHSA 06AUG76	378 0	150 0	06MAR89 (+20)	06AUG91 (+ 0)
25 JOHN F. KENNEDY MANOR 600 S. 37TH ST RICHMOND 94804	J.F.K. I LTD PO BOX 23544 OAKLAND, CA 94607	12155075 221(D)(3) BHIR LD FHM FLEX 12FEB71	\$2,709,300 FINAL ENDRS CURRENT 12FEB71	CA39H000043 EXISTING LHSA 20AUG76	168 0	124 0	12FEB911 (+20)	20AUG91 (+ 0)
				CA39H000301 EXISTING LHSA 28AUG87	168 0	26 0	12FEB911 (+20)	27AUG92 (+ 0)
26 ST JOHNS APTS 121 W. MACDONALD AVE RICHMOND 94801	ST JOHNS APTS LTD 121 W MACDONALD AV RICHMOND, CA 94804	12135034 221(D)(3) HKT RT PH FHM FLEX	\$2,132,100 0.00 HELD DELINQUENT 09JUL71	CA39H000134 EXISTING LHSA/SUP CONV 31OCT81	158 0	156 0	09JUL911 (+20)	31OCT91 (+ 5)
27 JOHN F KENNEDY MANOR II 680 S 37TH ST RICHMOND 94804	J.F.K. II LTD PO BOX 23544 OAKLAND, CA 94607	12144142 236(J)(1) LD FHM FLEX	\$2,667,600 FINAL ENDRS CURRENT 12MAY72	CA39H000045 EXISTING LHSA 20AUG76	156 0	66 0	12MAY921 (+20)	20AUG91 (+ 0)
				CA39H000286 EXISTING LHSA 11AUG87	156 0	19 0	12MAY921 (+20)	11AUG92 (+ 0)
				CA39H000144 EXISTING LHSA 12AUG02	156 0	43 0	12MAY921 (+20)	12AUG97 (+ 5)

*Based on project status 4/1/91. Numbers in parentheses indicate years of subsidy still remaining at earliest date of termination.

†Most Flexible Subsidy projects have use restriction requiring retention of low- and moderate-income character for at least the remaining term of mortgage.

Prepared for California Housing Partnership by California Coalition for Rural Housing Project. Source: HUD MIDLIS and MIS databases.

TABLE D-31 -- PAGE 2
INVENTORY OF UNITS AT RISK JULY 1990 - JUNE 1995
RICHMOND, CALIFORNIA

PROJECT NAME STREET LOCALITY ZIP CODE	OWNER NAME STREET LOCALITY ZIP CODE	FHA PROJECT # SECTION OF ACT OWNER/TEENANT TYPE RENT SUP, FLEX, TPA	LOAN AMOUNT LOAN TERM, INTEREST RATE PROCESSING STATUS FINAL ENDORSEMENT DATE	SECTION 8 CONTRACT # PROGRAM/FINANCE TYPE SECTION 8 TYPE HAP AGREE/EXEC DATE	TOTAL UNITS TOTAL ELDERLY		EARLIEST DATE OF SUBSIDY TERMINATION*	
					FHA	SECTION 8	FHA	SECTION 8
28 DELIVERANCE TEMPLE I 4312 POTRERO AVE RICHMOND 94804	DELIVERANCE APTS I 11812 SAN VICENTE LOS ANGELES, CA 90049	12144043 236(J)(1) LD FHM FLEX	\$841,000 FINAL ENDRS CURRENT 04SEP74	CA39H000015 EXISTING LHSA 31AUG76	50 0	48 0	04SEP94 (+20)	31AUG91 (+ 0)
29 RICHMOND TOWNHOUSES 2989 PULLMAN AVE RICHMOND 94804	RICHMOND TH ASSO C 11812 SAN VICENTE LOS ANGELES, CA 90049	12144185 236(J)(1) LD FHM FLEX	\$3,112,500 FINAL ENDRS CURRENT 14SEP73	CA39H000066 EXISTING LHSA 23SEP76	199 0	180 0	14SEP93 (+20)	23SEP91 (+ 0)
30 DELIVERANCE TEMPLE II 4600 POTRERO AVE RICHMOND 94804	DELIVERANCE APTS I 11812 SAN VICENTE LOS ANGELES, CA 90049	12135070 221(D)(3) HKT RT LD FHM FLEX	\$406,000 FINAL ENDRS CURRENT 17AUG72	CA39H000137 EXISTING LHSA/SUP CONV 31OCT81	32 0	32 32	17AUG92 (+20)	31OCT91 (+ 5)
31 BARRETT PLAZA TOWNHOUSES 700 BARRETT AVE RICHMOND 94801	GRTR RICHMOND HSG 1133 15TH ST NW WASHINGTON, DC 20005	12144366 236(J)(1) LD FHM	\$1,656,600 40 7.00 FINAL ENDRS CURRENT 17DEC76	CA39H000184 EXISTING LHSA/SUP CONV 07SEP82	58 0	23 0	17DEC96 (+20)	07SEP92 (+ 5)
32 BARRETT TERRACE APTS 700 BARRETT AVE RICHMOND 94801	GRTR RICHMOND HSG 1133 15TH ST NW WASHINGTON, DC 20005	12144365 236(J)(1) LD FHM	\$2,437,700 40 7.00 FINAL ENDRS CURRENT 17DEC76	CA39H000213 EXISTING LHSA/SUP CONV 09JUN83	115 0	46 0	17DEC96 (+20)	09JUN93 (+ 5)

*Based on project status 4/1/91. Numbers in parentheses indicate years of subsidy still remaining at earliest date of termination.
†Most Flexible Subsidy projects have use restriction requiring retention of low- and moderate-income character for at least the remaining term of mortgage.
Prepared for California Housing Partnership by California Coalition for Rural Housing Project. Source: HUD HIDLIS and HIS databases.

TABLE D-31 -- PAGE 3
INVENTORY OF UNITS AT RISK JULY 1990 - JUNE 1995
RICHMOND, CALIFORNIA
DEFINITION OF TERMS

TYPE OF INTEREST RATE:

BMIR Below Market Interest Rate

PROGRAM TYPE:

EXISTING (The project was already placed in service)

NEW CON New Construction

SUB REHAB Substantial Rehabilitation

MOD REHAB Moderate Rehabilitation

SECTION 8 TYPE

LMSA Loan Management Set Aside

LMSA/SUP CONV (Converted from an earlier Rent Supplement Contract) This means that the Section 8 contract has been converted from its original Rent Supplement contract. This is important since Rent Supplement conversions may not be legally eligible for loan prepayment.

OWNER TYPES:

For Profit:

LD Limited Dividend

PM Profit Motivated

Non Profit:

NP Non Profit

S Sales

MAN Management Type Cooperative

INV Investor Sponsored Cooperative

PB Public Body

CON Condominium

TABLE D-32
INVENTORY OF UNITS AT RISK JULY 1995 - JUNE 2000
RICHMOND, CALIFORNIA

<u>Project/Owner Name</u>	<u>Address</u>	<u>Type of Govt. Assistance</u>	<u>Total Units</u>	<u>Earliest Date of Subsidy Termination</u>
<u>HUD - SECTION 8 MODERATE REHAB</u>				
NATIONAL ECONOMICS LAND DEVELOPERS*	195 22ND STREET**	SECT 8 RENTAL ASSISTANCE: MODERATE REHAB.	1	12-31-97
NATIONAL ECONOMICS LAND DEVELOPERS	2130 BISSELL AVE**	same	1	12-31-97
NATIONAL ECONOMICS LAND DEVELOPERS	525 NEVIN AVE	same	1	11-30-96
NATIONAL ECONOMICS LAND DEVELOPERS	527 NEVIN AVE	same	1	11-30-96
NATIONAL ECONOMICS LAND DEVELOPERS	529 NEVIN AVE	same	1	11-30-96
NATIONAL ECONOMICS LAND DEVELOPERS	328 NEVIN AVE	same	1	10-31-97
NATIONAL ECONOMICS LAND DEVELOPERS	330 NEVIN AVE	same	1	10-31-97
M & M APARTMENTS*	160 9TH STREET#	same	1	12-31-97
M & M APARTMENTS	631 22ND STREET	same	1	12-31-97
M & M APARTMENTS	633 22ND STREET	same	1	12-31-97
ERRESTINE MARTIN*	305 SOUTH 7TH ST	same	1	12-31-97
ERRESTINE MARTIN	309 SOUTH 7TH ST	same	1	12-31-97
<u>HUD - SECTION 202 DIRECT LOANS FOR ELDERLY OR HANDICAPPED</u>				
RUBICON PROGRAMS - SAN JOAQUIN APTS.	1701 SAN JOAQUIN ST	HUD SECTION 202	3 ##	1999

TOTAL			15	

* All units are under contract with the same owner, William D. and Ernestine Martin. However, there are three tax ID numbers, as the owner has them listed under three business names.

** Units in a duplex

Unit is part of a multifamily structure.

Units are occupied by severely disabled persons

TABLE D-33
INVENTORY OF UNITS AT RISK JULY 2000 AND THEREAFTER
RICHMOND, CALIFORNIA

<u>Project/Owner Name</u>	<u>Address</u>	<u>Type of Govt. Assistance</u>	<u>Total Units</u>	<u>Earliest Date of Subsidy Termination</u>
<u>HUD - SECTION 202 DIRECT LOANS FOR ELDERLY OR HANDICAPPED</u>				
RUBICON PROGRAMS INC. 166 24TH STREET RICHMOND, CA 94804	RUBICON HOMES 13TH & VISALIA	HUD 202 ELDERLY SECTION 8	10	FHA: 6-14-2023 SECT.8: 10-21-2002
<u>HUD - COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM (CDBG)</u>				
SAN JOAQUIN APARTMENTS RUBICON PROGRAMS INC.	1703 SAN JOAQUIN ST	CITY CDBG, MCKINNEY REHAB FUNDS, COUNTY CDBG	4	2002*
RUBICON PROGRAMS INC.	903 VIRGINIA AVENUE	CITY CDBG, SPECIAL USER FUNDS	6	2011
RUBICON PROGRAMS INC.	906 9th STREET	CITY CDBG, STATE MCKINNEY FUNDS, COUNTY CDBG	4	2002*
<u>STATE REVENUE BOND PROGRAMS</u>				
G. MARSHALL TURNER	BAYVIEW AVENUE	CHFA**, PRIVATE \$	2	2015
<u>REDEVELOPMENT PROGRAMS</u>				
BRIDGE HOUSING CORPORATION MULTIFAMILY HOUSING	MACDONALD & HARBOUR WAY	RICHMOND REDEVELOPMENT AGENCY TAX INCREMENT FUNDS; UDAG; FED. LOW INCOME HOUSING TAX CREDITS; STATE OF CALIF.#	64	55 YEARS AFTER OCCUPANCY
BRIDGE CARQUINEZ APARTMENTS ELDERLY MULTIFAMILY HOUSING	HARBOUR WAY & NEVIN AVENUE	RICHMOND REDEVELOPMENT AGENCY TAX INCREMENT FUNDS; UDAG; FED. LOW INCOME HOUSING TAX CREDITS; HUD SECT. 8; STATE OF CALIF.#	34	2011 ##
TOTAL			124	

* BASED ON MCKINNEY FUNDS COMMITMENT.

** CALIFORNIA HOUSING FINANCE AGENCY, MULTIFAMILY RENTAL
ASSISTANCE PROGRAM, USING STATE BOND FUNDS

STATE OF CALIFORNIA RENTAL HOUSING CONSTRUCTION PROGRAM

BASED ON SECTION 8 20-YEAR AFFORDABILITY TERM;
AFFORDABILITY PERIOD BEGAN MID-1991

Analysis of Units at Risk (By Program Category)

1. HUD PROGRAMS

Section 8 Lower-Income Rental Assistance project-based programs:

New Construction (sub-category):

Richmond has eleven (11) projects in this category. Detailed information on these projects is provided in Tables D-31, D-33 and D-34. All of the 11 projects have Section 8 subsidies and FHA subsidies.

The eleven projects in Richmond contain a total of 1,360 units for low and moderate-income non-elderly and elderly families. Ten (10) of the 11 projects have subsidies scheduled to terminate in the 1990 - 1995 five-year period, and are therefore listed in Table D-31. The sole exception is Rubicon Homes, a 10-unit HUD Section 202 Elderly project, with earliest dates of subsidy termination (for both FHA and Section 8) occurring in the post-Year 2000 period (see Table D-33).

Termination of the subsidy programs will lift all rent restrictions, as well as restrictions on the incomes of people living in the projects. Owners will be free to convert the project to market rate rentals, condominiums, or even non-housing uses, resulting in economic hardship and displacement of many of the tenants. These projects are privately owned by individuals, partnerships or nonprofit organizations.

General Description of the Section 8 project-based programs

The eleven Section 8 projects in Richmond contain a total of 1,360 units for low and moderate-income elderly and non-elderly families. Of this number 943 or 69% are under Section 8 Contract. And all but the Section 202 Elderly project (involving ten units) were developed for occupancy by families.

82.5% of the units have two or more bedrooms, while the remaining 17.5% are either one bedroom or studio units. (See Table D-34.) According to on-site project staff, the majority of the studio and one bedroom units are occupied by elderly persons.

The size and age of the Section 8 projects in the City vary considerably. The smallest project has ten units and was the last to be constructed (1983), while the largest has a total of 378 units and was one of the first in the City to be constructed (1969).

The average age of all projects is 19 years. This means that the majority of all at-risk projects in the City of Richmond will have

TABLE D-34
UNIT TYPES AND NUMBER OF SENIOR UNITS IN
SECTION 8 PROJECTS - RICHMOND, CALIFORNIA

<u>NAME</u>	<u>STUDIOS</u>	<u>1 BDRM UNITS</u>	<u>2 BDRM UNITS</u>	<u>3 BDRM UNITS</u>	<u>4 BDRM UNITS</u>	<u>% SENIOR UNITS</u>
Arbors-Parkview 36 Units		12	24	-	-	13% or 5 units
Crescent Park 378 Units	-	84	111	136	47	15% or 57 units
JFK Manor 168 Units	-	-	100	68	-	5% or 9 units
Deliverance Temple I 50 Units	-	8	20	22	-	26% or 13 units
Richmond Townhouses 199 Units	-	51	112	30	6	11% or 22 units
St John's Apts. 158 Units	17	30	39	72	-	10% or 16 units
Deliverance Temple II 32 Units	-	-	16	16	-	34% or 11 units
Barrett Plaza 58 Units	-	-	-	47	11	0
JFK Manor II 156 Units	-	-	96	60	-	5% or 8 units
Barrett Terrace 115 Units	-	30	60	19	6	43% or 50 units
Rubicon Homes, Inc. 10 Units	-	6	4	-	-	20% or 2 units (100% handicapped)
TOTAL 1360 UNITS	17	221	582	470	70	193 SENIOR

reached their 20-year mortgage buy-out date in the early to mid 1990s.

All eleven Section 8 projects were financed through various federal subsidy programs which provide owners with certain incentives which make the cost of operating the project feasible and allow the cost of renting the unit to be affordable to lower-income families.

Location and Market Area

In determining those projects most likely to convert to market rate housing, several factors were considered to be of primary importance -- location, market area, physical condition, discussions with owners and/or management staff, and type of owner (individual, nonprofit, corporation).

The City of Richmond has among the most reasonable rents in the Bay Area, compared to other cities. There are many reasons and great speculation as to the cause for this situation -- type of housing stock; percentage of lower-income residents; percentage of minority persons; crime rate; and the public's perception of the standard of living which can be obtained in Richmond. Regardless of the image which the City has, the fact remains that units can generally be obtained at a lesser cost than elsewhere.

The at-risk projects are substantially concentrated in low-income neighborhoods which are plagued with a variety of economic and related social problems. Consequently, owners of rental units, particularly in marginal neighborhoods, are likely to receive higher rents through Section 8 subsidies than they could receive on the open market.

Physical Condition of Projects

The physical condition of the majority of the projects is satisfactory. The maintenance of the projects, however, has not been without major problems or complaints. The Contra Costa Legal Services Foundation has assisted many tenants residing in the various projects in obtaining needed repairs and improvements.

The tenants' council of JFK Manor I and II in December 1989 won a settlement from the owners of the project. The \$130,000 settlement agreement was the result of a legal process led by the Legal Services Foundation on behalf of the tenants, to have serious and chronic problems in the physical condition of the JFK Manor projects corrected. The settlement includes monetary restitution to not only the more than 300 tenants living at JFK Manor, but also financial benefits for previous tenants who suffered through seriously uninhabitable conditions and were forced to move because of them. It also requires the owners to make the project improvements, to maintain security guards, to hire a crime prevention specialist at one-half time for at least a year, and to

reduce the more than 8% vacancy rate in the complex to less than five percent.

As of August 1992 the owners had still not complied with the settlement agreement nor made the Court-mandated project improvements, and were paying penalties as required by the Court. Furthermore, the project vacancy rate at that time was estimated by Legal Services at 50-60 units -- which is close to a 20% vacancy rate.

The Legal Services Foundation has continued, and will continue, its efforts on behalf of the tenants to enforce full compliance with the settlement agreement by the JFK Manor project owners. The at-risk status of the JFK Manor projects is discussed below.

At least two other at-risk projects (Richmond Townhouses and St John's Apartments) have had similar problems but they were resolved before they reached the court system.

Based on the generally satisfactory physical condition of the majority of the projects, physical condition would not necessarily affect the marketability of them as market rate units. Their location in low-income neighborhoods, with the accompanying economic and social problems, however, would be more likely to affect their marketability.

At-Risk Status of the Section 8 Projects

City staff contacted several of the Section 8 project owners and management companies regarding their intentions to prepay their mortgages. Each company contacted by City staff denied the likelihood of prepaying the mortgage at the end of 20 years, or opting out of its Section 8 Contract. In fact, all but two indicated that Section 8 Contracts would be renewed.

Information obtained from the Department of Housing and Urban Development (HUD) indicates that several of the Section 8 projects have not renewed their Section 8 Contract to date. This does not mean that the projects will not renew their contracts, only that they have not done so to date. Under its "Opt-Out Program" HUD now routinely contacts projects whose Section 8 contracts are about to expire, to ask if they intend to renew their contracts. This is the first step; the second step is a letter offering various incentives to the project to renew; the third step is another letter offering further incentives.

A small indication that the project owners generally are interested in retaining the projects as subsidized housing, is the fact that the prepayment and opt-out dates are synchronized. In other words, owners have chosen to renew Section 8 contracts in multiples of 5-Year periods, the maximum allowed by HUD. Owners have the option of renewing the contract for a lesser period of time. This would

allow them to convert the units to market rate housing as soon as the twenty year mortgage prepayment date occurred.

The owners of the JFK Manor projects at one point submitted a Notice of Intent to prepay the FHA mortgage on Phase II (JFK Manor II). However, both JFK Manor projects are flexible subsidy projects, and therefore have use restrictions requiring that their units remain low income until the end of the mortgage term. The proposed prepayment on the Phase II mortgage could ultimately result in loss of the property's low-income use restrictions. The proposed prepayment, moreover, will be subject to the new provisions of federal law, the Low-Income Housing Preservation and Resident Homeownership Act of 1990, and required processing is likely to take at least two years.

The JFK Manor owners, in addition, submitted in August 1990 a notice of nonrenewal for a Section 8 contract on 124 units in the 168-unit Phase I (JFK Manor I). The HUD San Francisco field office stated that they would make every effort to provide ongoing HUD rent subsidy assistance to the project residents, either through Section 8 certificates or vouchers assigned to the residents themselves. HUD officials further stated that if the families chose to remain in the project, the owners would be required to accept them.

Arbors-Parkview IV, a 221(d)(3) project with Section 8 rent subsidy contract, submitted a Plan of Action under the federal Emergency Low-Income Housing Preservation Act (ELIHPA, also known as Title II). The project's Plan of Action was approved by HUD on November 21, 1990. An approved "Plan of Action" in effect means that the use restrictions on the project units have been extended - i.e. the units will continue to be low-income affordable - in return for which HUD has agreed to provide certain incentives such as additional Section 8 subsidy, Section 241 loans, rehabilitation financing, and other incentives. Based on this, the 36 units in the Arbors-Parkview project are not considered at risk of conversion.

Crescent Park, another 221(d)(3) project with Section 8 rent subsidy, has submitted a Plan of Action pursuant to the Low-Income Housing Preservation and Resident Homeownership Act (LIHPRHA, also known as Title VI). The project owners intend to sell the project to a nonprofit organization, Ecumenical Association for Housing. Title VI allows owners to sell their project, but it also ensures the ongoing low-income affordability of the project by requiring various agreements between the existing owners and HUD. The HUD San Francisco field office indicated in August 1992 that several items in the proposed Plan of Action for Crescent Park needed amending before it could be approved and the various agreements could be signed. Accordingly, for the purposes of the Housing Element "units at risk analysis" the 378 units in the Crescent Park project are still considered at risk.

Therefore, of the eleven Section 8 projects, all but 4 (Arbors - Parkview IV, Barrett Plaza Townhouses, Barrett Terrace Apartments, Rubicon Homes) are considered to be technically "at risk" of converting to non-low income use during the current (1990-1995) five-year period. This is based on their FHA and/or Section 8 subsidy termination dates (see Table D-31) which are prior to 1995. This is equivalent to 1,141 at-risk units.

Accordingly, the City's conservation objectives for the period of the current Housing Element (1990-1995) includes a specific objective to preserve 1,141 assisted multifamily rental units at risk of conversion (to non-low income use) over the five-year planning period.

The four Section 8 projects considered not at risk during the 1990-1995 period represent a total of 219 units. One project, Arbors - Parkview IV, has an approved Plan of Action under Title II which ensures the ongoing affordability of the units. Two of the projects, Barrett Plaza Townhouses and Barrett Terrace Apartments, participate in the Rent Supplement Program. (In technical terms, the Section 8 contract has been converted from its original Rent Supplement contract.) Projects under this program (i.e. Rent Supplement conversions) cannot legally prepay loans and are locked in for the full term of the loan. The FHA loan term for each project is December 1996 (see Table D-31).

The fourth project considered not at risk, Rubicon Homes, is owned and operated by a nonprofit corporation (Rubicon Programs, Inc.) and was constructed with a direct loan from HUD under the Section 202 Program. Under the conditions of the 202 program the project is ineligible to prepay and therefore is locked into its low-income use restriction for the full mortgage term. In addition, all ten units in Rubicon Homes are under Section 8 Contract. The earliest date of subsidy termination for the loan is June 2023; for the Section 8 contract, October 2002.

While the City has identified 1,141 rental units as being technically at risk of conversion, it is important to point out that it is the City staff view that most of the units will not in fact convert. This is basically due to economics and location. Most of the multifamily rental projects with units technically at risk are located in lower income neighborhoods, where the units are unlikely to command higher rents even with the removal of affordability restrictions. Furthermore, the projects owners in general tend to view the Section 8 subsidies positively: the subsidies help to guarantee stable renters who can make their rent payments, since their rents are geared to their actual incomes and will not exceed a fixed percentage of income (often, 25% or 30%), and the remainder is subsidized.

Type of Owner

Of the eleven at-risk projects located in the City of Richmond, nine are Limited Dividend partnerships, one is profit motivated (St. John's Apartments), and one is owned by a nonprofit corporation (Rubicon Homes).

HUD PROGRAMS - CONTINUED

Substantial or Moderate Rehabilitation (sub-category of Section 8):

The Richmond Housing Authority has 12 rental units in multifamily structures leased under this Section 8 Program in 1992 (see Table D-32). The rehabilitation was done in 1982-83. The units are in duplex or triplex structures. All units have use restrictions attached; the earliest possible termination date is November 1996.

The City contacted the owners in August 1992 regarding their future plans for the 12 Moderate Rehab units. They indicated that they would prefer to have the Section 8 assistance continue, if possible, after the expiry of the current leases. This would in effect preserve the units for low-income persons. The owners also noted that the units are in predominately low-income neighborhoods where the market rents would probably be affordable to low income families in any case. According to the Richmond Housing Authority staff, there is a good likelihood of obtaining ongoing Section 8 contracts for these units. The Authority, furthermore, would be interested in assisting the owners to obtain ongoing Section 8 subsidies for the units.

Section 221(d)(3) Below-Market-Interest-Rate Mortgage Insurance Program:

Three (3) of the 11 projects with Section 8 subsidies described above (under Section 8) are 221(d)(3) BMIR projects:

1. ARBORS -- PARKVIEW IV (36 units)
2. CRESCENT PARK (378 units)
3. JOHN F. KENNEDY MANOR (168 units)

In addition, two (2) of the 11 projects with Section 8 subsidies referred to above (under Section 8) are 221(d)(3) Market Rate projects:

4. ST. JOHNS APARTMENTS (158 units)
5. DELIVERANCE TEMPLE II (32 units)

There are no other Section 221(d)(3) projects in Richmond.

Section 236 Interest Reduction Payment Program:

Five (5) of the 11 projects with Section 8 subsidies described above (under Section 8) are 236(J)(1) projects:

1. JOHN F. KENNEDY MANOR II (156 units)
2. DELIVERANCE TEMPLE I (50 units)
3. RICHMOND TOWNHOUSES (199 units)
4. BARRETT PLAZA TOWNHOUSES (58 units)
5. BARRETT TERRACE APARTMENTS (115 units)

There are no other Section 236 projects in Richmond.

Section 202 Direct Loans For Elderly or Handicapped:

1. One (1) of the 11 projects with Section 8 subsidies described above (under Section 8) is a Section 202 Elderly project: RUBICON HOMES (10 units at 13th and Visalia). Subsidy termination dates are post-Year 2000. (See Table D-33.)

2. A second Rubicon project with HUD Section 202 assistance is the San Joaquin Apartments project (3 units). (See Table D-32.) This project is technically at risk of conversion in the 1995-2000 period. However, the units are occupied by severely disabled persons, and Rubicon is committed as a nonprofit social service provider to serving low-income and disadvantaged persons. Therefore, it is highly unlikely that the Rubicon Section 202 units would convert from low-income use.

There are no other Section 202 projects in Richmond.

Community Development Block Grant Program (CDBG)

Richmond has used HUD-CDBG funds for three multifamily rental housing projects, with use restrictions attached, operated by Rubicon Homes, Inc. (See Table D-33.) Total number of units in the three projects is 14. Earliest date of subsidy termination is 2002.

Urban Development Action Grant (UDAG) Program

There are two (2) UDAG-assisted multi-family rental projects in Richmond with affordability controls. These are described in greater detail under subsection 4. REDEVELOPMENT PROGRAMS, below, since these projects also have City Tax Increment Funds assistance. They are listed in Table D-33.

2. FMHA SECTION 515 RURAL RENTAL HOUSING LOANS

No projects in Richmond.

3. STATE AND LOCAL MULTIFAMILY REVENUE BOND PROGRAMS

There are two State Bond-assisted multifamily rental projects in Richmond, only one of which is subject to affordability restrictions. A total of two (2) units are subject to affordability restrictions, and the earliest date of conversion from income controls on the units is the year 2015. (See Table D-33.)

There are no multifamily rental projects in Richmond with financing assistance from local revenue bond programs.

4. REDEVELOPMENT PROGRAMS

There are two (2) Redevelopment-assisted multi-family rental projects in Richmond with affordability controls (see Table D-33), totalling 98 units:

BRIDGE MULTIFAMILY HOUSING, MACDONALD & HARBOUR WAY, 64 UNITS
BRIDGE CARQUINEZ APARTMENTS, HARBOUR WAY & NEVIN AVENUE, 34 UNITS.

In the 64 unit project the earliest date of termination of use restrictions is 55 years after occupancy (units are still under construction); and in the 34 unit project the Section 8 subsidy termination date is 2011 (20 years after occupancy, which began in mid-1991).

5. LOCAL IN-LIEU FEE PROGRAMS OR INCLUSIONARY PROGRAMS

The City has not yet adopted an inclusionary zoning or in-lieu fee program. The City Council adopted an inclusionary zoning policy as part of the 1990 Housing Element revision. City staff has prepared a draft Inclusionary Housing Ordinance for City Council consideration in the fall of 1992.

6. DEVELOPMENTS WHICH OBTAINED A DENSITY BONUS AND DIRECT GOVERNMENT ASSISTANCE

The City has not approved any density bonuses with financial assistance.

II. Cost Analysis of Preserving Versus Replacing At-Risk Units

The cost analysis (below) is provided separately for each five-year planning period (1990-95 and 1995-2000), within each subject heading.

Replacement Cost of At-Risk Units.

First five-year period (1990-95): The City arrived at an estimated construction cost to produce comparable units to replace those at risk during the 1990-95 five-year period by reviewing actual costs per unit paid by (a) the Richmond Housing Authority for a public housing project; (b) the Public Works Department for a project currently under construction; (c) one local private developer which constructs projects within the Section 8 income range; and (d) one nonprofit housing corporation planning to construct affordable units in the City. Projects reviewed included a range of sizes and rent levels to arrive at an average cost to produce new housing units to replace all units which could change from low-income to market rate use in the next five years. Based on the above sources, the 1990 average cost (excluding cost of land) has been estimated at \$40,000 to \$45,000 per unit. This estimated cost figure is an average figure for the zero to four bedroom unit range.

Land costs were discussed earlier in this section of the Technical Appendix (see section on CONSTRAINTS). The 1990 residential land costs in the City's distressed neighborhoods were estimated to range from \$2.50 to 4.50 a square foot, and from \$4.00 to \$6.00 in Central Richmond east of 23rd Street. Based on these estimates and assuming a 5000 square foot lot, the corresponding land cost per replacement housing unit in the City's distressed neighborhoods would range from \$12,500 to \$22,500 for a single family unit, and from \$6,250 to \$11,250 per unit for a duplex.

Using the estimates from the above two paragraphs, a combined land and construction cost estimate for comparable units to replace units that might convert from low-income, would be in the range of \$46,250 to \$67,500. The per-unit cost would of course be relatively less for a larger multifamily rental project, than for a duplex or triplex project.

The City estimates that in the 1990-1995 period a total of 1,141 subsidized rental units will technically be at risk of converting to market rate. Based on the above per-unit cost estimates, a potential total cost of \$52,771,250 to \$77,017,500 would have to be generated to replace the total 1,177 at-risk units, assuming that they all were to convert to non-low income use.

Second five-year period (1995-2000): After 1995, by the time the opt-out dates and/or subsidy termination contracts expire for the remaining 209 Section 8 at-risk units from Table D-31, plus the additional 15 units that are at risk of conversion during the 1995-

2000 period (see Table D-32), the City estimates that land and construction costs will have increased by one percent each year. This would result by the year 2000 in a replacement cost per unit in the range of \$51,100 to \$74,600. This results in a total cost of between \$11,446,400 to \$16,710,400 for the 224 additional at-risk units.

Preservation Cost of At-Risk Units.

First five-year period (1990-95): The cost of preserving housing can in some cases be more expensive than replacing it. The condition, age and maintenance record of housing plays a major role in the preservation cost. It is more difficult to place a cost on preserving existing units over time. The City believes, however, that because of the relatively young age of Richmond's multifamily rental projects with affordability controls, and because of past and continuing actions to make owners more responsive to the projects' maintenance needs, preservation costs would, on balance, be less expensive than the replacement costs.

Other major factors affecting the feasibility of preserving the units at risk include the type of ownership, the level of financial support which could be counted on to be available for annual maintenance and operating costs, and the type of liability residents would be assessed as a result of unreasonable unit damage.

City staff checked with two housing management companies which currently manage six of the at-risk projects in Richmond to determine the approximate cost per unit to maintain existing projects. One estimate given was \$4,000 per unit, per year, excluding debt service. Another company estimated its cost to be \$3,000 per year excluding debt service. The average of the two figures is 3,500 per year per unit.

Once this figure is multiplied by the 1,141 units which are potentially at-risk over the next five years, an estimated \$3,993,500 would be needed annually to maintain the units. This amount: (a) assumes that some type of subsidy would be available to maintain the units at a rent affordable to low-income families; and (b) does not include the financing costs associated with the purchase of the projects.

Second five-year period (1995-2000): Assuming \$4,000 per unit per year as the approximate maintenance cost of existing units in the 1995-2000 period, an estimated \$896,000 per year would be needed annually to maintain the additional 224 at-risk units.

III. Resources for Preservation

A. Public Agency and Nonprofit Housing Corporations

A few potential entities have been identified that have the commitment and the legal and managerial capacity necessary to acquire and manage the Section 8 assisted projects, the projects at risk during the first five-year period (1990-1995), in order to preserve their low income use. One is the local Housing Authority. The others are nonprofit groups: Bridge Housing Corporation, with headquarters in San Francisco, and Ecumenical Association for Housing, located in San Rafael, Marin County, California.

The Richmond Housing Authority, located at 330 - 24th Street, Richmond, CA, 94808, has had many years of experience in managing low income housing projects. There are two major reasons why the Authority would be appropriate: 1) An existing staff is in place which could initially provide experienced staff to operate such a project, and to train other persons to assume this role; 2) The amount of operating funds needed to manage an additional project may be reduced as a result of some staff already in place.

Bridge Housing Corporation, located at 82 Second Street, San Francisco, CA 94105, also has a history and positive track record for subsidized housing development and management throughout the San Francisco Bay Area region, and a commitment to the development and maintenance of affordable housing. Consequently, based on the reputation and capacity of Bridge, and because Bridge is currently implementing a major mixed-use affordable housing and commercial project in Richmond's City Center, it would be a logical choice for purchasing and managing at-risk projects in the City. Finally, and perhaps most important, Bridge has the ability to attract financial support to undertake such a venture.

The Ecumenical Association for Housing, located at 1510 Fifth Avenue, San Rafael, CA 94915, is a nonprofit housing management group committed to affordable housing efforts. The Association is currently in the process of purchasing Crescent Park, one of the largest Section 8 assisted multifamily rental projects in Richmond, whose units are considered "at risk" during 1990-95. The sale is pending completion of Transfer of Physical Assets (TPA) and Plan of Action agreements between the existing owners and HUD. The Ecumenical Association also explored the possibility of purchasing JFK Manor, but concluded that they would need a strong local nonprofit group to function as a local counterpart in a partnership. The City of Richmond is working to strengthen the capacity of the various local nonprofit housing corporations (see description of Units at Risk Program at the end of this section). This effort may result in greater involvement, in the future, of local nonprofit groups in the management of the multifamily rental projects in Richmond.

With respect to the smaller multifamily rental projects identified as being at risk of conversion during the second five-year period (1995-2000), the Housing Authority, Bridge Housing Corporation, and the Ecumenical Association for Housing would again be fully qualified entities capable of acquiring and managing the at-risk units.

In addition, several other nonprofit housing corporations are actively engaged in implementing low-income affordable projects in Richmond, and are potential candidates to acquire and manage the smaller at-risk multifamily rental projects during the 1995-2000 period. These nonprofit corporations include: Richmond Neighborhood Housing Services (NHS); Community Housing Development Corporation of North Richmond; Rubicon Programs; East Bay Habitat for Humanity; West County Housing Corporation; and Greater Richmond Community Development Corporation (GRCDC). The City of Richmond is committed to assisting these local nonprofit housing corporations to develop affordable housing in Richmond in a variety of ways, including strengthening their capacity to manage assisted housing developments. The City's commitment is reflected in several of the Housing Element policies and is further spelled out in the Five-Year Implementation Program.

One of the above-listed organizations, Rubicon Programs, is in fact the owner of one of the multifamily rental projects technically at risk of conversion in the 1995-2000 period (see Table D-32). However, the units are occupied by severely disabled persons, and Rubicon is committed as a nonprofit social service provider to serving low-income and disadvantaged persons. Therefore, it is highly unlikely that the Rubicon Section 202 units would convert from low-income use.

B. Public Financing and Subsidy Programs

HUD Community Development Block Grant & Other HUD Funds. The City of Richmond's annual CDBG entitlement amount is about \$1,300,000, of which approximately 60% to 70% each year is used for housing assistance. In addition, another \$200,000 in HUD CDBG Loan Repayment funds is used primarily to subsidize housing activities. An estimated \$750,000 in HOME Program funds is anticipated for the current Fiscal Year, of which one-half (\$375,000) are reserved by HUD for affordable rental housing. This means that an estimated \$1.3 to \$1.5 million a year is theoretically available to be used to preserve multifamily rental projects which are at risk of converting from low-income use.

The majority of funds allocated to housing activities under Richmond's CDBG Entitlement Program are used to provide low-interest loans for housing rehabilitation to owner-occupants in target area neighborhoods. The purpose of directing funds to this segment of the population is to preserve the existing housing stock and to retain units which are in a standard and sanitary condition.

The amount of block grant funds which could be allocated to assisted housing projects at risk of conversion is a relatively small amount, given the estimated cost of replacing or preserving assisted housing developments.

In addition to the Housing Rehabilitation Component, CDBG funds are also used to subsidize the owners' share of rehabilitation expenses under the Rental Rehabilitation Program. This is another means of providing assistance to lower-income families to obtain affordable housing.

CDBG housing funds are also used to purchase land and pay pre-development costs associated with the construction of single-family housing for lower-income, first time homebuyers.

Certain events would have to occur before the City could commit CDBG resources to preserving at-risk developments.

- 1) The City's existing priorities for use of HUD CDBG funds would have to be revised; and
- 2) The City would most likely want to ensure that a financial return was received on its block grant investment. The HUD block grant allocation to Richmond has been steadily decreasing during the past several years, and the City needs to use the block grant funds in a revolving manner as much as possible, in order to support and sustain affordable housing program activities in the future.

Redevelopment Agency Tax Increment Funds For Low and Moderate Income Housing. State law requires redevelopment agencies to set aside at least 20 percent of tax increment revenues for increasing and improving the community's supply of low and moderate income housing, unless certain findings are made to exempt a project from the requirement. Richmond Redevelopment Agency tax increment revenues represent a second potential source of funding for preserving low-income assisted housing projects which are at risk of converting to market rate housing units. (See the "Low and Moderate Income Housing Fund" program description in the implementation section of the Housing Element (Volume I of the Richmond General Plan.)

Administrative Fees (Reserves). Housing Authority Administrative Reserves are unavailable for at-risk housing conservation or construction. Over the past few years the Richmond Housing Authority has directed its reserves to the construction and maintenance of planned and existing projects.

Local Initiative Support Corporation (LISC) Funds. In 1992 two local nonprofit housing corporations, Richmond Neighborhood Housing Services (NHS) and the Community Housing Development Corporation of North Richmond received approximately \$300,000 - \$400,000 for pre-

development housing costs from LISC (Local Initiatives Support Council), a national consortium of private foundations that are involved with promoting low-income housing. LISC provides financial and technical support to nonprofit housing corporations. LISC funds to these Richmond nonprofits may represent one additional potential financing source for preserving assisted projects for low-income use.

IV. Quantified Objectives: Number of At-Risk Units to be Preserved

The City's conservation objectives for the period of the current Housing Element (1990-1995) include a specific objective to preserve 1,141 assisted multifamily rental units at risk of conversion (to non-low income use) over the five-year planning period. (See last page of the implementation section of the Housing Element, Volume I of the Richmond General Plan, for the complete table of Quantified Objectives for 1990-1995, including the objective for units at risk to be preserved over the five-year period.)

NUMBER OF UNITS TO BE PRESERVED: 1,141

BY INCOME CATEGORY:

VERY LOW INCOME:	136*
LOW INCOME:	1,005
MODERATE INCOME:	-0-
ABOVE MODERATE INCOME:	-0-

* elderly units

The 1,141 units to be preserved are in the following seven Section 8 assisted projects:

PROJECT	# UNITS
1. Crescent Park	378
2. John F. Kennedy Manor	168
3. John F. Kennedy Manor II	156
4. St. Johns Apartments	158
5. Deliverance Temple I	50
6. Deliverance Temple II	32
7. Richmond Townhouses	199
TOTAL	1,141

V. Program Efforts to Preserve At-Risk Units

The implementation section of the Housing Element (Volume I of the Richmond General Plan) includes a specific "Units At Risk Program"

which is intended to preserve the low-income use of at-risk projects listed in the ten-year Inventory in this section of the Technical Appendix.

The Policies section of the Housing Element includes two policies directly related to the City's Units At Risk Program:

- o Policy HG-B.5: Make a maximum effort, after detailed analysis on a case by case basis to ensure consistency with existing laws and policies, to preserve for low income households all of the units in assisted housing developments in Richmond that are eligible to change to non-low-income housing uses due to terminations of subsidy contracts, mortgage prepayment, or expiration of use restrictions.
- o Policy HG-E.1: Give priority in the use of city programs and resources to conserving and upgrading the city's existing housing stock rather than constructing new units, except for the construction of affordable units.

For the purposes of the State of California review of the City's Housing Element analysis and program, The City's Units At Risk Program (the implementation program relating to preserving units at risk) is described here in greater detail in the following paragraphs. The Program is described in summary form in the implementation section of the Housing Element (Volume I of the Richmond General Plan).

The lead agent in implementing the City of Richmond's Units At Risk Program is the Richmond Redevelopment Agency. The Agency implements the City's affordable housing programs, the CDBG Block Grant Program, HOME Program, and other federal and State assisted housing programs, as well as related activities such as the Units At Risk Program which is intended to preserve at-risk multifamily rental units. In the following program description, therefore, "City" may refer either to the City of Richmond itself or to the Richmond Redevelopment Agency.

Units At Risk Program. The City's program to ensure that assisted units at risk do not convert to non-low-income uses has four basic components:

- o 1) Identify At-Risk Units
- o 2) Monitor At-Risk Units
- o 3) Assist Nonprofits & Other Public Entities
- o 4) Respond to At-Risk Situations

1) Identify At-Risk Units.

The City, in this section of the Technical Appendix, has identified all Richmond projects which are eligible to terminate affordability controls at some point. The projects have been segregated on the

basis of the dates of the earliest potential terminations of use restrictions:

Table A-31 = the July 1990 - June 1995 five-year period;
Table A-32 = the July 1995 - June 2000 five-year period; and
Table A-33 = the post-June 2000 projects.

2) Monitor At-Risk Units.

The City will continue to monitor the status of local assisted multifamily rental housing projects by periodically contacting the owners, management companies, and/or the tenants. The City will, in addition, maintain contact with HUD, State HCD, and with Contra Costa Legal Services Foundation, to attempt to ensure that it is alerted in advance of any situation where assisted units are in danger of converting to non low-income housing uses. Project owners are required to give notice of any intended conversions of multifamily rental projects under a recent State law (Chapter 1438, Statutes of 1990).

Contra Costa Legal Services periodically utilizes the Freedom of Information Act to obtain copies of recent correspondence between owners of multifamily rental projects and HUD relating to "units at risk" projects.

The City will continue to work with the Contra Costa Legal Services Foundation which is actively functioning on an ongoing basis as an advocate for the low-income tenants in the large multifamily Section 8 assisted projects at risk of conversion. Legal Services is prepared to assist the City to negotiate with owners of subsidized projects who may have plans to convert to market rate.

The City will retain contact with HUD to ensure that notification of potential loan prepayments, nonrenewal of Section 8 contracts, and transfers of project ownership will be forwarded to the City. Project owners who decide to prepay their mortgages and/or who decide not to renew their Section 8 contracts must notify HUD of impending sales or conversions.

The City will obtain assistance from the California Housing Partnership Corporation (CHPC) which provides support to localities and nonprofits in addressing a wide array of preservation opportunities; and from the California Coalition for Rural Housing Project (CCRHP), a nonprofit housing advocacy organization that operates an Anti-Displacement Project to respond to the overall conversion problem, statewide.

Lastly, the City through its Housing Counseling Unit will periodically convene a meeting of the managers of the larger multifamily rental projects in Richmond along with City and Redevelopment Agency staff and Contra Costa Legal Services, to review collectively the status of at-risk projects and to consider

steps that the community could take to ensure the ongoing affordability of the projects' units.

3) Assist Nonprofits & Other Public Entities.

The City, as was mentioned earlier, is committed to assist local nonprofit housing corporations to develop affordable housing in Richmond in several ways, including helping to build their financial capacity and their capacity to manage assisted housing developments. This commitment is spelled out in the Housing Element policies and implementation section.

The City will continue to work closely with the local nonprofit housing corporations, financial institutions, and with LISC (Local Initiatives Support Council) in a cooperative effort called the "Housing Affordability Partnership Program." LISC is a national consortium of private foundations dedicated to promoting low-income housing. In 1991 LISC initiated an ongoing program to work with local nonprofit housing corporations in Richmond and similar communities in the Bay Area. One primary goal of LISC's program is to strengthen these nonprofits' capacity to develop, finance, own, and manage low- and moderate-income affordable housing.

4) Respond to At-Risk Situations.

In the event that units in specific multifamily rental projects are at risk of conversion, The City/Agency will intervene and use any available resources to preserve the units for low income households.

The following alternative actions will be taken depending on feasibility, political support, availability of funds, and the specific situation:

- a. Negotiate with owners, persuade them to retain units for lower-income families.
- b. Contact entities listed above under III. A. "Public Agency and Nonprofit Housing Corporations," and entities interested in right of first refusal program. This is a State Department of Housing & Community Development program pursuant to State law (Chapter 1437, Statutes of 1990). The City will contact the various public, nonprofit, and private parties listed on the State's printout, and work with any interested prospective purchasers to assist them to purchase the project and thereby preserve the low-income use of these units.
- c. Assist interested nonprofits, either national or local groups, to obtain financing to purchase projects. Assist in brokering the purchase between the nonprofit/s and the previous project owners, in order to ensure the ongoing affordability of the housing units at risk.

- d. Use CDBG funds, HOME Program funds, Redevelopment funds, or other available public funds to purchase or subsidize the units at risk.
- e. Consider adopting a City rent control ordinance which would apply only to assisted housing projects, where feasible. (Many federally-subsidized projects are preempted from new rent control ordinances applicable only to assisted housing, pursuant to the Low Income Housing Preservation and Resident Homeownership Act of 1990.)
- f. Apply to HUD and/or the State for technical and financial assistance.
- g. Consider a City bond financing program.

REFERENCES

Association of Bay Area Governments, Housing Needs Determinations, January 1989.

Association of Bay Area Governments, Projections 90: Forecasts for the San Francisco Bay Area to the Year 2005, December 1989.

Barton-Aschman Associates, Inc., West Contra Costa County Travel Demand Model, prepared for the Contra Costa Transportation Authority, August 1992.

Bay Area Council, Housing and Development Report, May 1989.

California Department of Finance, Demographic Research Unit, "Contra Costa County Population and Housing Estimates - January 1, 1991," dated May 1991.

California Employment Development Department, Annual Planning Information: Contra Costa County, June 1991.

City of Richmond, Housing Assistance Plan: October 1, 1988 - September 30, 1991, October 1988.

City of Richmond, Housing Assistance Plan: October 1982 - September 1985, December 1982, revised February 1983.

City of Richmond, Housing Element of the Richmond General Plan, May 1985.

City of Richmond Planning Department, Geographic Information System (GIS), 1992.

City of Richmond Planning Department, Richmond Data, November 1990.

Contra Costa County, Comprehensive Homeless Assistance Plan, September 1987.

Hall, Goodhue, Haisley and Barker, Shoreline Conservation and Development Strategy: Richmond, California, Technical Memorandum Number 2, July 1986.

Richmond Unified School District, "Ethnic/Racial Distribution of Elementary School Enrollment as of October 27, 1988," October 1988.

TEM Associates, Inc., Final Report: An Employment Strategy Plan for Downtown Richmond and the Greater Richmond Area, November 1984.

U.S. Department of Commerce, Bureau of the Census, Census of Population and Housing, 1980 and 1990.

ADDENDUM 1

RICHMOND, CALIFORNIA NEW HOUSING 1985-1991: SUMMARY REPORT

During the 1985-1991 seven-year period a total of 5360 new housing units were built in Richmond, California. This is an average of 765 per year.

The net total number of units added to the Richmond housing stock, after adjusting for units demolished and conversions, was 5264 units for the seven-year period. This is an average of 752 net units per year.

In the five years from 1987 through 1991 a total of 4,205 homes were built, for an even higher average of 841 per year. The number of net units added was 4144, or an average of 828 net units added per year.

YEAR	TOTAL UNITS BUILT	NET CHANGE IN HSG STOCK
1991	730	+ 710
1990	776	+ 758
1989	667	+ 656
1988	541	+ 536
1987	1491	+ 1484
1986	677	+ 665
1985	478	+ 455
7-YR	5360	+ 5264 UNITS
TOTAL		

Six areas in the city had the most new homes built during 1985-91:

Hilltop	1780 homes
El Sobrante	1254
Marina Bay	1263
Brickyard Cove	253
Point Richmond	75
Iron Triangle/City Center	226

SUBTOTAL:	4851

In these six areas combined, 4,851 new homes were built in the 1985-1991 period. This is 90.5 % of all the new homes built in Richmond during that 7-year period.

Citywide, during 1985-91 the largest number of new homes was in the Multifamily/5+ units category (3348 units). This category includes apartment houses and multifamily condominium structures having 5 or more units. One development alone, Hilltop Bayview Apartments, consisted of 1,008 units all of which were completed in 1987.

The second largest category was Single Family detached homes, of which 1496 were built. Third category was Single Family attached homes (townhomes and row houses): 261 units built. There were 226 units built in the Multifamily 2-4 category (duplex units and smaller apartments of 3 or 4 units). Lastly, 29 units were added to existing structures.

RICHMOND NEW HOUSING 1985-1991

7 YEAR TOTALS BY CENSUS TRACTS

<u>Census Tract</u>	<u>Area</u>	<u># Hsg. Units Built</u>	<u># Demo- litions</u>	<u>Hsg. stock Net change</u>
3560.02	Castro Ranch Rd.	303	0	303
3601	El Sobrante	573	0	573
3602	El Sobrante	83	1	82
3610	El Sobrante	99	0	99
3630	El Sobrante	198	1	197
3650.01	Hilltop	1781	0	1781
	Parchester	4	2	2
3650.02	No. Richmond	8	3	5
3671	Fairmede Hilltop	0	0	0
3700	East R. Heights	8	0	8
3710	North & East 2	21	2	19
3720	North & East 1	15	2	13
3730	Belding	37	8	29
3740	North & East 2	170	1	169
3750	Woods	63	3	60
3760	Iron Triangle No.	68	13	55
3770	Iron Triangle So.	158	13	145
3780	Pt. Richmond/ Brickyard Cove	329	12	317
3790	Southside	36	26	10
3800	Southside	17	22	-5
	Marina Bay	1263	0	1263
3810	Pullman/Plaza/ Nicholl Park	31	9	22
3820	Eastshore	39	3	36
3830	Annex	80	4	76

ADDENDUM 2

CITIZEN REVIEW PROCESS FOR 1990 HOUSING ELEMENT REVISION

Citizen Advisory Committee

The Housing Committee of the City of Richmond Community Development Commission served as the designated Citizen Advisory Committee (CAC) for the preparation of the Richmond Housing Element - 1990 Revision. The Housing Committee, in its capacity as the CAC for the Housing Element revision, conducted regular meetings from April through August 1990; reviewed draft materials prepared by City staff; and at the end of the update process made its recommendations regarding adoption of the revised Housing Element to the Community Development Commission.

Technical Advisory Committee

A "Technical Advisory Committee" (TAC) was established to advise the CAC during the Housing Element revision process. The purpose of the TAC was to advise the CAC on technical matters relating to housing needs, policies, objectives, and programs, and to represent the key interest groups related to housing needs, housing programs, housing production and the housing industry in general. The TAC met jointly with the CAC between April and August 1990 and participated fully in the meetings.

Staff Task Force

A small group of City of Richmond, Richmond Housing Authority, and Redevelopment Agency staff persons functioned as the staff Task Force for the Housing Element Revision. The Task Force included representatives from the following City Departments: Housing & Community Development, Planning, City Attorney's Office, and Public Works; the Richmond Housing Authority; and the Richmond Redevelopment Agency.

Summary of Public Review Process

The public review process for the Richmond Housing Element 1990 Update consisted of the following major elements.

- A. The CDC Housing Committee in its capacity as the CAC for the Housing Element conducted periodic meetings to review the City staff work on the Housing Element update between April and August 1990.
- B. The Technical Advisory Committee attended all CAC meetings and participated actively.

- C. Upon completion of its review of the draft revised Housing Element, the CAC made its recommendation to the Community Development Commission and to the Planning Commission.
- D. The Community Development Commission on August 21, 1990 reviewed and discussed the draft Housing Element Revision and voted to recommend to the City Council adoption of the revised Element.
- E. The Planning Commission, in its official capacity as the commission responsible for preparing, adopting and maintaining the City's General Plan, reviewed and discussed the draft Housing Element revision at its August 16 and September 20, 1990 meetings. At its October 18, 1990 meeting the Commission conducted a public hearing and voted to approve the revised Housing Element.
- F. The Richmond City Council reviewed the Housing Element revision in a Study Session on November 8, 1990 and at Public Hearings on January 7, January 28, and February 11, 1991. The City Council adopted the Housing Element Amendment to the General Plan on February 11, 1991.

Chronology Of Advisory Committee Meetings

- April 12, 1990 Meeting #1. Introductions. Role of Housing Element. Role of Committees & Task Force. Scheduling. Review of existing Housing Element, State law, and Housing Needs Assessment. Discussion of concerns of Committee members.
- April 25, 1990 Meeting #2. Reviewed results of previous Element (1985-89 performance evaluation). Discussion of housing issues.
- May 9, 1990 Meeting #3. Discussion of Community Reinvestment Act programs with bank representatives. Review of site inventory.
- May 23, 1990 Meeting #4. Review and discussion of draft Goals and Policies.
- June 6, 1990 Meeting #5. Further discussion of draft Goals and Policies.
- June 27, 1990 Meeting #6. Discussion of draft city policies for siting of homeless shelters. Discussion of office/housing linkage programs.
- July 11, 1990 Meeting #7. Review and discussion of 5-Year Objectives and Programs.

August 15,
1990

Meeting #8. Review of complete draft of revised Housing Element. CAC voted to recommend adoption of Element to Community Development and Planning Commissions.

Committee and Task Force Membership

Citizen Advisory Committee

(Housing Committee of the Richmond
Community Development Commission)

Eula Averhart, Chairperson
Ralph Emerson, Sr.
John Watson
Juanita Cobon
J. Doris Cuevas
G. Marshall Turner
Harold Mure
Joseph Brown
Christina Pangelina

Technical Advisory Committee (TAC)

Housing Advisory Commission:
James P. Ramey

Planning Commission:
Meadie Jackson

County Homeless Task Force:
Janet Anderson
Community Development Department
Contra Costa County

Renters in Subsidized Housing:
a) Housing Authority:
Frank Chow

b) Other Subsidized Housing:
Ruby Lewis
JFK Manor Tenants Council

Homeowner: Affordable Housing
Janie Holland

Homeowner:
Eleanor Loynd
May Valley Neighborhood Council

Rental Housing Developers/ Managers:
J. David & Lynn Glazier Ford

Neighborhood Housing Services (NHS) Board:
William Jones

Contra Costa Legal Services Foundation:
Dara Schur

Rubicon Programs, Inc.:
Joyce Scott

Volunteers of America, Bay Area, Inc.:
Roger Stevens
Executive Director
VOA/Contra Costa County

Neighborhood Coordinating Council:
Doug Bruce, Vice Chairperson, Housing Element Advisory Committees
Richmond Annex Neighborhood Council
Alternate: Joyce Harris
Belding Woods Neighborhood Council

High School Student Representatives:
Stephanie Moran
Alternate: Daniel Watt

Churches:
Rev. Paul Schulze
G.R.I.P. (Greater Richmond
Interfaith Program)

Local Financial Community:
Vanda Sepic, Manager
Bank of America

Local Real Estate Community:
Cletia Hart, Executive Officer
West Contra Costa Board of Realtors

Below Market Rate Housing Developer:
Jim Buckley, Senior Manager
Bridge Housing Corporation

Market Rate Housing Developer:
Michael Rupprecht
Vice President, Dame Construction

City of Richmond Staff Task Force

Housing & Community Development Department:
Art Hatchett
Harriette Langston

Richmond Housing Authority:
Leon Hunter

Planning Department:
Jerry Rasmussen
Brian Cooke

Public Works Department:
Fred Clement

Richmond Redevelopment Agency:
Gary Hembree

City Attorney's Office:
Wayne Nishioka

Other Countywide Offices:

Oakland

Berkeley

San Francisco

San Jose

Hayward/Union City

Alameda

San Mateo

San Diego

San Jose, 1972 U.S. Census

On the other hand, fewer people remain in Richmond than in Oakland, Berkeley area, according to the 1970 Census, which shows that Richmond was easily from 1950 and 1970. Contra Costa County Supervisor, one of the 1970 Census, according to Richmond and from the 1970 Census, which shows and Contra Costa County is not in Richmond.

ADDENDUM 3

WORKPLACE OF RICHMOND'S LABOR FORCE AND JOBS/HOUSING BALANCE

Workplace of Richmond's Labor Force

Richmond is a net exporter of labor force. According to the 1980 Census there were 29,833 employed persons in Richmond's population in 1980. Out of this total, an estimated 35% worked and lived in Richmond, and the balance or 65% of employed residents commuted outside of Richmond to work. (TEM Associates, November 1984)

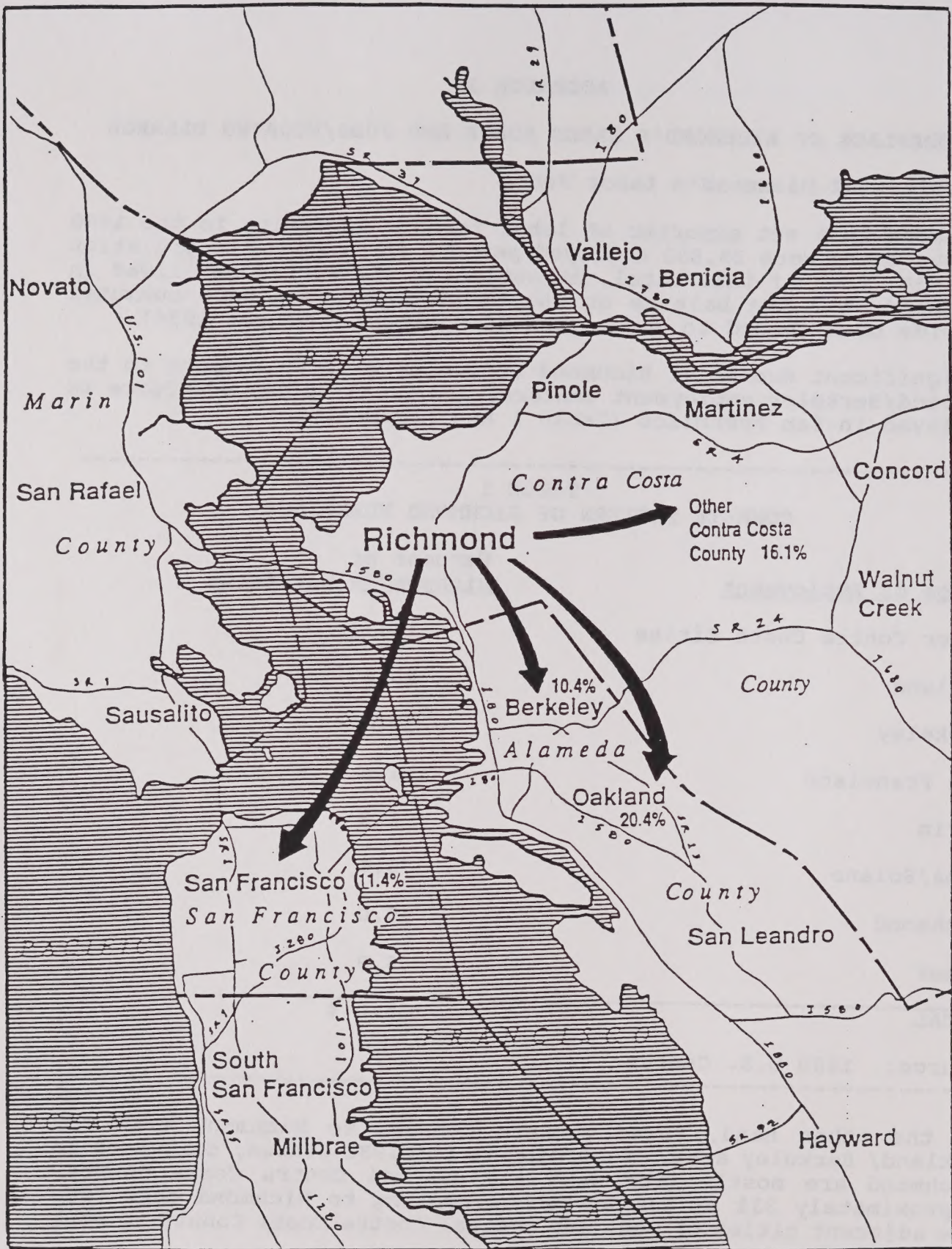
A significant number of Richmond residents (30.8%) commute to the Oakland/Berkeley employment centers, and 11.4% of the workforce is employed in San Francisco (Table 1 and Figure 1).

TABLE 1
COMMUTE PATTERN OF RICHMOND WORKFORCE

<u>Place of Employment</u>	<u>Percent of Richmond's Workforce</u>
Other Contra Costa Cities	16.1%
Oakland	20.4
Berkeley	10.4
San Francisco	11.4
Marin	2.0
Napa/Solano	0.8
Richmond	35.0
Other	3.9
TOTAL	100.0 %

Source: 1980 U.S. Census.

On the other hand, fewer workers commute to Richmond from the Oakland/ Berkeley area. According to the 1980 Census, commuters to Richmond are mostly from west and central Contra Costa County. Approximately 33% of all workers commuting to Richmond come from the adjacent cities of west and central Contra Costa County to work in Richmond.



⊙ Workplace of Richmond's Labor Force

FIGURE 1

A random survey of nine employers chosen from manufacturing and non-manufacturing segments of the Richmond economy in 1986 showed that 36% of all the company employees who lived and worked in Richmond were employed predominantly as clerks, warehouse persons, maintenance and repair persons, truck drivers, and machine operators.

TABLE 2
EMPLOYEE RESIDENCE SURVEY

<u>Company</u>	<u>No. of Employees</u>	<u>% of Richmond Resident Employees</u>
Rheem Manufacturing	130	25 %
Paktank-Dorward	14	25 %
Texaco	24	10 %
Union Oil of California	80	25 %
Kaiser Medical Group	420	15 %
Safeway	1,325	10 %
Atlantic Richfield Co.	23	50 %
Canal Industrial Park (Pasha Trkwy)	25	5 %
Levin Metal Corp.	115	50 %

Source: Interviews with companies (Hall, Goodhue, Haisley and Barker, July 1986).

White collar workers in the surveyed firms were mostly non-residents who commuted from central Contra Costa County, Marin County and Vallejo. An example is Safeway Stores, where approximately 40% of its employees were white collar workers (managers, supervisors, and professionals), most of whom lived outside of Richmond.

Jobs/Housing Balance

Closely related to the discussion of the workplace of Richmond's labor force is the issue of jobs/housing balance. "Jobs/housing balance" is defined as the reasonable opportunity for people to live and work within a defined area which generally encompasses the City's Sphere of Influence (SOI) area. Three components of job/housing balance were analyzed: 1) the number of jobs as a percent of the number of employed residents (i.e., Total Jobs/Total Employed Residents); 2) average household income, and the implicit relation between this indicator and the ability to pay housing costs; and 3) the amount of vacant land by current zoning designation.

Maintaining a reasonable jobs/housing balance is important because it:

- (1) Reduces the need for residents to use regional transportation infrastructure;
- (2) Reduces the amount of household income which must be used for transportation costs;
- (3) Has positive environmental impacts, because of overall reduction in commute trips;
- (4) Reduces the amount of time residents must spend commuting, and allows the use of that time for leisure activities; and
- (5) Contributes to the overall health and vitality of the community, by creating greater opportunities for community involvement and interaction.

Data for this analysis is derived from ABAG Projections 90; the City of Richmond's Geographic Information System (GIS), prepared and maintained by the City of Richmond Planning Department; and data prepared for the West Contra Costa County Travel Demand Model.

Overall, the total number of jobs in Richmond and its Sphere of Influence area as a percent of employed residents (i.e., Total Number Jobs/Total Employed Residents) is shown in Table 3.

TABLE 3*
RATIO OF TOTAL JOBS TO TOTAL EMPLOYED RESIDENTS

<u>Year</u>	<u>Ratio</u>
1980	95%
1985	94%
1990	92%
1995	97%
2000	99%
2005	105%
2010	103%

Source: ABAG Projections 90, December 1989; Data from West Contra Costa County Travel Demand Model.

*Note: Information in Table 3 and subsequent related data may not precisely correspond to aggregated ABAG data because of differences in allocating data to split census tracts.

The following conclusions can be made from information contained in this analysis:

- (1) Table 3 demonstrates that since 1980, based solely on the number of jobs and employed residents in the Richmond Sphere of Influence area, Richmond has and is anticipated to maintain a good jobs/housing balance; in other words, the City's residents have the potential to live and work in the community).
- (2) Shifts in the relation of jobs/employed residents during the 1980s reflect the fact that new residential construction preceded expansion, redevelopment and new location of businesses in Richmond. During this period the number of jobs as a percent of the employed residents declined creating, in absolute numbers, the need for some Richmond residents to leave the community for employment.
- (3) During the period between 1990 and 2005, that trend is anticipated to reverse. By the year 2005, the City and its Sphere of Influence area could have more jobs than employed residents, creating a condition requiring residents from other communities to come to the City to work. This suggests a continued strategy to encourage residential development in Richmond to meet the housing needs of the City's growing economy.
- (4) By 2010 the ratio of jobs to residents in the Richmond Sphere of Influence area is expected to decrease slightly from the peak projected in the year 2005.

Table 4 contains data for the Richmond Sphere of Influence area for the period 1980 to 2010 comparing total jobs, total population, number of employed residents, number of households, mean household income and the total number of jobs/total number of employed residents (expressed as a percentage).

TABLE 4

YEAR	TOTAL JOBS	TOTAL POP.	EMPLOYED RESIDENTS	NUMBER HSHLDS.	MEAN HSHLD. INC.	TOTAL JOBS/ RESIDENTS
1980	34,629	91,516	36,407	62,405	\$30,234	95%
1985	37,079	92,194	39,272	35,032	\$33,395	94%
1990	40,734	99,411	44,413	41,611	\$38,543	92%
1995	46,947	105,375	48,277	40,491	\$41,217	97%
2000	49,009	106,245	49,477	44,311	\$43,085	99%
2005	51,704	105,933	49,395	44,601	\$45,395	105%
2010	55,169	109,336	53,409	46,308	N/A	103%

Source: Association of Bay Area Governments, Projections '90, December 1989 (years 1985 through 2005); West Contra Costa County Travel Demand Model (year 2010).

Finally, the City's zoning of vacant land in Richmond would appear to support ABAG's projections for an increase in total jobs in the Richmond area over the next 20 years. Table 5 shows the amount of vacant land by generalized zoning categories in Richmond and the surrounding unincorporated area in July 1989.

TABLE 5
VACANT LAND BY GENERAL ZONING CATEGORY
FOR RICHMOND AND SURROUNDING UNINCORPORATED AREA
(IN ACRES FOR 1989)

<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Other</u>	<u>Total</u>
1,351	61	1,853	450	3,716
(36%)	(2%)	(50%)	(12%)	(100%)

Source: City of Richmond Geographic Information System (GIS).

*Note: Property zoned as PA, Planned Area District is included in the Residential category.

These data show that over half of the vacant land in Richmond is currently zoned for an industrial or commercial use. This is consistent with ABAG's projected increase in total jobs in the Richmond area. Notably, these data do not reflect constraints which may affect development potential, i.e. currently unforeseen constraints, nor do they indicate development plans which may

involve future rezonings (e.g., the fact that some of the property currently owned by the Chevron Land and Development Company, and anticipated for residential development, is currently zoned for industrial use).

relative to the knowledge of the fact that some of the property
 was owned by the corporation and that the same was
 included in the estate of the decedent.

Item	Value	Value	Value	Value
1. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
2. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
3. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
4. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
5. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
6. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
7. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
8. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
9. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00
10. 1951 Buick Wildcat	1,200.00	1,200.00	1,200.00	1,200.00

The above items were included in the estate of the decedent and were valued at the time of his death.

The value of the above items at the time of the decedent's death was \$12,000.00.

The value of the above items at the time of the decedent's death was \$12,000.00.

The value of the above items at the time of the decedent's death was \$12,000.00.

The value of the above items at the time of the decedent's death was \$12,000.00.

The value of the above items at the time of the decedent's death was \$12,000.00.

SECTION E

SURVEY OF COMMUNITY FACILITIES

This section describes community facilities and services in Richmond as of early 1992. When combined with major land use activities (residential, commercial, industrial), these facilities and services make the City function. Included in this discussion are:

- o Recreation and park facilities;
- o Public safety facilities such as police and fire facilities;
- o Public infrastructure facilities -- water, sewer, storm drainage, utilities, etc.;
- o Human services facilities such as public schools, child care and medical facilities; and
- o Arts and cultural facilities.

RECREATION & PARK FACILITIES

The City of Richmond and the East Bay Regional Park District (EBRPD) both own and maintain a variety of parks, recreation facilities, and open spaces in Richmond. Organized recreation and community centers are in several locations, complementing large tracts of accessible public open space lands. (See Figure E-1 at the end of Section E.) In addition, several neighborhood parks and playgrounds are located in or near residential areas.

Definitions

1. Citywide park. A park facility providing a unique park or recreational resource on a citywide basis, located in a unique natural setting (shoreline location, outstanding scenic features, views, etc.) or in a central location, and generally larger in acreage than district or neighborhood facilities (generally in the 15 to 25 acre range). "Citywide parks" are in most cases city owned and operated; in a few cases, however, they are located on property owned by some other public agency and leased to the City. (See Table E-1 for a current inventory of all City parks.)
2. District center. A community center building facility, located in or directly adjacent to a city park (generally in the 6 to 15 acre range), playground or playing fields, and providing a place for public meetings and social functions. A district center serves a geographic area composed of several neighborhoods and generally extending for a one mile radius around the center. Ideally the center shall consist of a city owned and operated community recreation center open to the general public and offering recreational facilities, classes, programs and other community services for a variety of age groups.

3. Neighborhood park. A relatively small park (generally in the 0.5 to 10 acre range) primarily serving the surrounding residential neighborhood within a one-half mile radius. It is a city owned and operated, or city leased and operated facility. Most neighborhood parks serve several user categories including families, children of elementary school age, teenagers, senior citizens, and organized groups of neighborhood residents. In some cases it is primarily oriented to school age and younger children. (See "small neighborhood facilities" definition, below.)
4. Park acres per 1000 population. The number of city park acres per 1000 population. Calculation of the actual city park acres per population for Richmond shall include city developed and planned (but not yet developed) park sites. "Planned but not yet developed" shall refer to designated park sites where actual park development has been identified in city capital programming. The calculation of park acres per population shall also include recreational trails. It shall not include regional park acreage, school district facilities, or any other jurisdiction's facility acreage, unless covered by a shared-use agreement, in which case 50% of the facility's acreage is applied toward meeting the city standard. It shall not include recreation center building space, which in most cases is located on park acreage already included in the calculation.
5. Park District. The East Bay Regional Park District, headquartered in Oakland, California and serving Alameda and Contra Costa Counties. Also referred to in the Report as "EBRPD."
6. Recreational trail or recreational "right-of-way". A public trail for exclusive use of pedestrians and bicyclists, located in an area of outstanding natural beauty or offering scenic vistas such as along shorelines, creeks, other waterways, and in hill areas, and often serving as a link between various other park and recreational facilities.
7. Regional facility. Any regional park, shoreline, preserve, recreation area, or trail owned and operated by East Bay Regional Park District (see Park District, above).
8. Service district. One of 11 designated geographic subareas of Richmond for park and recreation planning purposes, each one containing in the ideal situation at least one centrally located district recreation center; a number of neighborhood parks; and, in some cases, a citywide park facility. Service district boundaries are drawn based on a blend of factors including geography, physical barriers, population, and the local "character" of the district.

TABLE E-1 - Page 1
CURRENT PARKS INVENTORY

REVISED: 22-Oct-91
RICHMOND RECREATION & PARKS COMMISSION

TABLE 1. CURRENT PARKS INVENTORY					EXISTING		PLANNED		*****
#	DISTRICT NAME	CODE	TYPE	FACILITY NAME	TOTAL ACRES	ADJUSTED ACRES	COMMITTED ACRES	PROPOSED ACRES	NOTES

1	SOUTHEAST/ANNEX	RF	PARK	PT. ISABEL REGIONAL PARK ✓	21.00	0.00			A
1	SOUTHEAST/ANNEX	DC	PARK	EASTSHORE PARK & CENTER ○	22.00	22.00			
1	SOUTHEAST/ANNEX	NP	PARK	CRESCENT PARK ~	3.10	3.10			
1	SOUTHEAST/ANNEX	NP	PARK	CENTRAL PARK ~	1.50	0.75			B
1	SOUTHEAST/ANNEX	NP	PLAYLOT	55TH & CREELY PLAYLOT	0.07	0.07			
1	SOUTHEAST/ANNEX	NP	PLAYLOT	MENDOCINO PLAYLOT	0.40	0.40			
1	SOUTHEAST/ANNEX	NP	PLAYLOT	MONTEREY PLAYLOT	0.45	0.45			
1	SOUTHEAST/ANNEX	NP	PLAYLOT	HUNTINGTON PLAYLOT	0.34	0.34			
1	SOUTHEAST/ANNEX	RT	PATHWAY	CREELY PATHWAY	0.69	0.69			
1	SOUTHEAST/ANNEX	RT	PATHWAY	CYPRESS PATHWAY	0.20	0.20			
1	SOUTHEAST/ANNEX	RT	PATHWAY	ELLIS PATHWAY	0.84	0.84			
1	SOUTHEAST/ANNEX	RT	PATHWAY	SCHOOL PATHWAY	0.03	0.03			
1	SOUTHEAST/ANNEX	RT	PATHWAY	FALLON PATHWAY	0.07	0.07			
1	SOUTHEAST/ANNEX	RT	TRAIL	BAY TRAIL, PT ISABEL-M. BAY	0.00	0.00	1.26		C
2	PARK/PULLMAN	DC	PARK	JOHN F KENNEDY PARK & SW CNT ○	8.79	8.79	0.29		J
2	PARK/PULLMAN	NP	PARK	ABRAHAM BRAXTON N'HOOD PARK ~	0.59	0.59			
2	PARK/PULLMAN	NP	PARK	PLAZA ONE PARK ~	2.15	2.15			
2	PARK/PULLMAN	RT	PATHWAY	TAFT PATHWAY	0.02	0.02			
2	PARK/PULLMAN	RT	PATHWAY	FRAY PATHWAY	0.03	0.03			
2	PARK/PULLMAN	RT	PATHWAY	FAY PATHWAY	0.11	0.11			
2	PARK/PULLMAN	RT	PATHWAY	OVEREND PATHWAY	0.05	0.05			
2	PARK/PULLMAN	RT	PATHWAY	WALL PATHWAY	0.07	0.07			
2	PARK/PULLMAN	RT	TRAIL	OHIO RR R-O-W CORRIDOR	0.00	0.00		3.59	D
3	SOUTH SIDE	DC	PARK	M L KING JR PARK & CENTER ○	12.87	12.87			K
3	SOUTH SIDE	NP	PARK	BOORMAN PARK ~	4.00	4.00			
3	SOUTH SIDE	NP	PARK	SECOND STREET MINI PARK ~	0.51	0.51			
3	SOUTH SIDE	NP	PLAYLOT	FIFTH & VIRGINIA PLAYLOT	1.61	1.61			K
3	SOUTH SIDE	NP	PLAYLOT	MAINE PLAYLOT	0.17	0.17			
3	SOUTH SIDE	RT	TRAIL	OHIO RR R-O-W REC CORRIDOR	0.00	0.00		3.59	D
4	MARINA BAY	RF	PARK	BROOKS ISLAND REGIONAL PARK ✓	45.00	0.00			
4	MARINA BAY	CW	PARK	MARINA PARK & GREEN ~	13.00	13.00			
4	MARINA BAY	NP	PARK	TRAILHEAD PARK ~	3.00	3.00			
4	MARINA BAY	NP	PARK	PENINSULA PARK	0.00	0.00	6.00		
4	MARINA BAY	NP	PARK	HARBOUR PARK	0.00	0.00	2.00		
4	MARINA BAY	RT	TRAIL	MARINA BAY PUBLIC ACCESS ~	12.24	12.24		8.56	E
4	MARINA BAY	RT	TRAIL	BAY TRAIL, PT ISABEL-M. BAY	0.00	0.00	1.26		C
5	PT RICH/B Y COVE	RF	PARK	MILLER-KNOX REGIONAL PARK ✓	259.00	0.00			
5	PT RICH/B Y COVE	CW	PARK	POINT MOLATE BEACH PARK ~	15.00	15.00			K
5	PT RICH/B Y COVE	DC	PARK	WASHINGTON PARK ~	2.51	2.51			
5	PT RICH/B Y COVE	NP	PARK	HARRISON MINI PARK ~	0.51	0.51			
5	PT RICH/B Y COVE	NP	PLAYLOT	JANICE PLAYLOT	0.13	0.13			
5	PT RICH/B Y COVE	RT	TRAIL	BAY TRAIL	0.00	0.00		UNKNOWN	
6	IRON TRIANGLE	DC	PARK	NEVIN PARK & CENTER ○	4.38	4.38			
6	IRON TRIANGLE	NP	PARK	LUCAS PARK ~	7.14	7.14			
6	IRON TRIANGLE	NP	PARK	ATCHISON PARK ~	4.30	4.30			
6	IRON TRIANGLE	NP	PARK	STEWART PLAYGROUND	0.84	0.84			
6	IRON TRIANGLE	NP	PARK	MEMORIAL PARK ~	1.60	0.00		1.00	F
6	IRON TRIANGLE	NP	PLAYLOT	VIRGINIA PLAYLOT	0.17	0.17			
6	IRON TRIANGLE	NP	PLAYLOT	ELM PLAYLOT	0.47	0.47			
6	IRON TRIANGLE	NP	PLAYLOT	MACHINIST PLACE PLAYLOT	0.00	0.00		0.12	

TABLE E-1 - Page 2
CURRENT PARKS INVENTORY

TABLE 1. CURRENT PARKS INVENTORY (CONT.)					EXISTING		PLANNED		*****
#	DISTRICT NAME	CODE	TYPE	FACILITY NAME	TOTAL ACRES	ADJUSTED ACRES	COMMITTED ACRES	PROPOSED ACRES	NOTES *****
7	CENTRAL/EAST	CW	PARK	ALVARADO REGIONAL PARK J	42.46	21.23			G
7	CENTRAL/EAST	CW	PARK	NICHOLL PARK -	21.25	21.25			
7	CENTRAL/EAST	NP	PARK	WENDELL PARK -	2.20	2.20			
7	CENTRAL/EAST	NP	PARK	TILLER PARK -	2.66	2.66			
7	CENTRAL/EAST	NP	PARK	MIRA VISTA PARK -	1.73	1.73			
7	CENTRAL/EAST	NP	PARK	BURG PARK -	1.09	1.09			
7	CENTRAL/EAST	NP	PARK	BELDING-GARCIA PARK -	2.01	2.01			
7	CENTRAL/EAST	NP	PARK	WOODS SCHOOL PARK -	2.41	2.41			
7	CENTRAL/EAST	NP	PLAYLOT	CLINTON PLAYLOT	0.21	0.21			
7	CENTRAL/EAST	NP	PLAYLOT	HUMPHREY PLAYLOT	0.23	0.23			
7	CENTRAL/EAST	NP	PLAYLOT	KERN PLAYLOT	0.28	0.28			
7	CENTRAL/EAST	NP	PLAYLOT	SOLANO PLAYLOT	0.20	0.20			
7	CENTRAL/EAST	NP	PLAYLOT	HUMBOLDT PLAYLOT	0.35	0.35			
7	CENTRAL/EAST	RT	TRAIL	OHIO RR R-O-W REC CORRIDOR	0.00	0.00			
8	NORTH RICHMOND	CW	PARK	NORTH RICHMOND CITY PARK	0.00	0.00	8.20		H
8	NORTH RICHMOND	DC	PARK	SHIELDS-REID PARK & CENTER	5.93	5.93			
8	NORTH RICHMOND	RT	TRAIL	PARKWAY BIKE CORRIDOR	0.00	0.00			
9	PARCHESTER	RF	PARK	POINT PINOLE REGIONAL PARK J	2,147.00	0.00			
9	PARCHESTER	DC	PARK	PARCHESTER PARK & CENTER	2.14	2.14			
9	PARCHESTER	RT	TRAIL	PARKWAY BIKE CORRIDOR	0.00	0.00			
10	HILLTOP/FAIRMEDE	CW	PARK	HILLTOP LAKE PARK -	36.00	18.00	18.00		I
10	HILLTOP/FAIRMEDE	NP	PARK	HILLTOP PARK -	6.65	6.65			
10	HILLTOP/FAIRMEDE	NP	PARK	FAIRMEDE PARK -	11.69	11.69			
10	HILLTOP/FAIRMEDE	RT	PATHWAY	DUKE PATHWAY	0.02	0.02			
10	HILLTOP/FAIRMEDE	RT	PATHWAY	HOLLEY PATHWAY	0.05	0.05			
10	HILLTOP/FAIRMEDE	RT	PATHWAY	JOANN LOWER PATHWAY	0.04	0.04			
10	HILLTOP/FAIRMEDE	RT	PATHWAY	JOANN UPPER PATHWAY	0.03	0.03			
10	HILLTOP/FAIRMEDE	RT	TRAIL	PARKWAY BIKE CORRIDOR	0.00	0.00			
11	EL SOBRANTE	RF	PARK	WILDCAT CANYON REGIONAL PARK	2,419.00	0.00			
11	EL SOBRANTE	RF	PARK	KENNEDY GROVE REGIONAL PARK	95.00	0.00			
11	EL SOBRANTE	RF	PARK	SOBRANTE RIDGE REGIONAL PRSV	277.00	0.00			
11	EL SOBRANTE	NP	PARK	HILLTOP GREEN PARK -	6.32	6.32			
11	EL SOBRANTE	NP	PARK	RAINCLOUD PARK -	3.16	3.16			
11	EL SOBRANTE	NP	PARK	LAMOINE PARK -	14.59	14.59			
11	EL SOBRANTE	RT	PATHWAY	SHELDON PATHWAY	0.03	0.03			
11	EL SOBRANTE	RT	PATHWAY	MITEY MITE PATHWAY	0.06	0.06			
11	EL SOBRANTE	RT	PATHWAY	CINDY PATHWAY	0.06	0.06			
11	EL SOBRANTE	RT	PATHWAY	ANN PATHWAY	0.11	0.11			
11	EL SOBRANTE	RT	PATHWAY	ELAINE PATHWAY	0.09	0.09			
11	EL SOBRANTE	RT	PATHWAY	LANE PATHWAY	0.06	0.06			
11	EL SOBRANTE	RT	TRAIL	REGIONAL PARKS TRAILS				UNKNOWN	
TOTALS:					5,553.06	248.48	37.01	16.85	

TOTAL EXISTING ADJUSTED PARKS FACILITIES ACREAGE PLUS PLANNED ACRES:

302.34

TABLE E-1 - Page 3
CURRENT PARKS INVENTORY

TABLE 1. CURRENT PARKS INVENTORY (CONT.)

CODE KEY (REFERENCE "CODE" COLUMN OF TABLE 1. - PAGES 1 AND 2)

RF - REGIONAL FACILITY (TYPICALLY EAST BAY REGIONAL PARK DISTRICT FACILITIES)
CW - CITYWIDE FACILITY
DC - DISTRICT CENTER
NP - NEIGHBORHOOD PARK
RT - RECREATIONAL TRAIL

NOTES (REFERENCE FAR RIGHT COLUMN OF TABLE 1. - PAGES 1 AND 2)

- A. ALL EAST BAY REGIONAL PARK DISTRICT (EBRPD) FACILITIES WITHIN THE CITY OF RICHMOND'S SPHERE OF INFLUENCE ARE SHOWN AS "TOTAL ACRES" BUT ADJUSTED TO ZERO. EXCEPTIONS ARE NOTED.
- B. CURRENT JOINT MAINTENANCE AGREEMENT BETWEEN THE CITY OF RICHMOND AND THE CITY OF EL CERRITO PROVIDES FOR 50% SPLIT OF ANNUAL COSTS; ACREAGE ADJUSTED TO 50%.
- C. THE PROPOSED BAY TRAIL BETWEEN PT. ISABEL AND MARINA BAY WILL BE DEVELOPED AND MAINTAINED JOINTLY BY THE CITY OF RICHMOND AND EBRPD. CALCULATED AT 20 FT. AVE. WIDTH BY 5,500 LINEAR FEET. SPLIT 50% IN DISTRICT 1 AND 50% IN DISTRICT 4.
- D. CITY-OWNED OHIO RAILROAD RIGHT-OF-WAY CALCULATED AT 25 FT. AVE. WIDTH BY 12,500 LINEAR FEET. SPLIT 50% IN DISTRICT 2 AND 50% IN DISTRICT 3.
- E. CITY-OWNED PUBLIC ACCESS THROUGHOUT MARINA BAY CALCULATED AT 50 FT. AVE. WIDTH BY 18,120 LINEAR FEET (EXISTING AND PROPOSED).
- F. CURRENT UNDEVELOPED MEMORIAL PARK WILL BE REPLACED WITH NEW ONE ACRE FACILITY AS PROPOSED BY BRIDGE HOUSING CORPORATION AND THE RICHMOND REDEVELOPMENT AGENCY.
- G. THE CITY OF RICHMOND RETAINS USAGE RIGHTS OF ALVARADO PARK AS PER THE TERMS AND CONDITIONS OF THE PROPERTY TRANSFER TO EBRPD. TOTAL ACREAGE IS ADJUSTED TO 50%.
- H. THE UNDEVELOPED NORTH RICHMOND PARK SITE IS CURRENTLY OWNED BY THE CITY OF RICHMOND. FUTURE IMPROVEMENTS MAY INCLUDE ACTIVE SPORTS FIELDS AND UNIQUE FEATURES WHICH WOULD BE DEFINED AS A CITY-WIDE FACILITY.
- I. THE CITY-OWNED HILLTOP LAKE PARK SITE IS MOSTLY UNDEVELOPED BUT IS USED FOR PASSIVE RECREATION. TOTAL ACREAGE ADJUSTED TO 50% UNTIL DEVELOPMENT IS COMPLETED.
- J. THE NEW KENNEDY SWIM CENTER INCLUDES AN OUTDOOR COURT FOR PASSIVE AND ACTIVE RECREATION; CURRENT DESIGN IS 12,500 SQ. FT.
- K. PROPERTY OWNED IN WHOLE OR PART BY SCHOOL DISTRICT, CALTRANS, RAILROAD OR OTHER AGENCY; CITY HAS LONG-TERM LEASE WITH NOMINAL ANNUAL LEASE PAYMENT (\$1.00 TO \$10.00)

9. Small neighborhood facilities. Very small neighborhood parks, playlots, "tot lots", and mini parks generally in the 0.05 to 0.5 acre size range. In most cases these are primarily oriented to elementary school age and younger children.

Findings

In 1991 the Richmond Recreation and Parks Commission and the City staff conducted a comprehensive review and updating of Richmond's standards for parks and recreation facilities. In their final report, Update of Goals and Standards for City of Richmond Parks and Recreation Facilities, dated October 1991, the Commission included their findings, conclusions, and recommended goals, policies, and standards. The following are the Commission's findings regarding Richmond's parks and recreational facilities, from the October 1991 report.

General Findings

1. The current City of Richmond standards for recreation and park facilities were prepared and adopted in the early 1960s and should now be updated.
2. Citizens' use patterns, preferences, and demands for park and recreational facilities change over time. The Recreation and Parks Commission and the City staff need a dynamic, flexible set of standards and a process which will enable them to respond to changing use patterns and recreational and park needs throughout the City.
3. City of Richmond parks and recreational facilities provide a broad range and variety of recreational resources and opportunities for its residents. Included in the City's existing inventory are an estimated 85 parks and recreation facilities ranging in size from 0.02 acres to 25 acres. (See Tables E-1 and E-2; see also Figure E-1 at the end of Section E.) The City operates seven community centers; four aquatic facilities (operating or planned); two senior centers; and miscellaneous recreational facilities such as Washington Field House, Disabled People's Recreation Center, Nicholl Park Bowling Green, etc., providing extensive recreational and community services programs, supervised team sports, instruction, and other group recreational activities.
4. The City of Richmond had 248.48 acres of park facilities as of October 1991 (see Table E-1). Most of the park acreage is on city owned land, with the exception of a few park facilities on leased property. The official city population based on the 1990 U.S. Census is 87,425. This represents 2.84 park acres per 1,000 persons. One-half (50%) of the acreage

TABLE E-2
CURRENT RECREATION FACILITIES INVENTORY

REVISED: 22-Oct-91
RICHMOND RECREATION & PARKS COMMISSION

TABLE 2. CURRENT RECREATION FACILITIES INVENTORY					E X I S T I N G		P L A N N E D		*****
#	DISTRICT NAME	CODE	TYPE	FACILITY NAME	TOTAL SQ. FT.	ADJUSTED SQ. FT.	COMMITTED SQ. FT.	PROPOSED SQ. FT.	NOTES *****
1	SOUTHEAST/ANNEX	DC	CENTER	EASTSHORE COMMUNITY CENTER	12,500	12,500			
1	SOUTHEAST/ANNEX	SC	SNR CNT	ANNEX SENIOR CENTER	2,470	2,470			
2	PARK/PULLMAN	DC	CENTER	J.F.K. SWIM CENTER	7,500	7,500	34,000		
3	SOUTH SIDE	DC	CENTER	M.L.K. JR. COMMUNITY CENTER	16,750	16,750			
4	MARINA BAY	DC	CENTER	MARINA BAY BOAT HOUSE	2,666	2,666			
5	PT RICH/B Y COVE	DC	CENTER	PT. RICHMOND COMMUNITY CNTR	1,845	1,845			
5	PT RICH/B Y COVE	DC	SWM/CNT	RICHMOND PLUNGE (NATATORIUM)	20,000	20,000			
5	PT RICH/B Y COVE	PF	REC FAC	WASHINGTON FIELD HOUSE	1,936	1,936			
6	IRON TRIANGLE	DC	CENTER	NEVIN COMMUNITY CENTER	12,000	12,000			
7	CENTRAL/EAST	DC	SWM/CNT	Y.W.C.A.	25,778	0		12,889	1.
7	CENTRAL/EAST	PF	REC FAC	DISABLED PERSONS REC CENTER	6,398	6,398			
7	CENTRAL/EAST	PF	REC FAC	NICHOLL PK BWLG GRN CLUB HS	1,500	1,500			
7	CENTRAL/EAST	SC	SNR CNT	RICHMOND SENIOR CENTER	10,172	10,172			
8	NORTH RICHMOND	DC	CENTER	SHIELDS-REID COMMUNITY CNTR	7,500	7,500			
9	PARCHESTER	DC	CENTER	PARCHESTER COMMUNITY CENTER	5,400	5,400			
10	HILLTOP/FAIRMEDE	DC	CENTER		0	0		10,903	2.
11	EL SOBRANTE	DC	SWM/CNT	EL SOBRANTE SWIM CENTER	0	0		UNKNOWN	3.
11	EL SOBRANTE	DC	CENTER	HILLVIEW COMMUNITY CENTER	15,650	7,825		(7,825)	4.
11	EL SOBRANTE	DC	CENTER	(OLD) FIRE STATION NO. 63	0	0		8,700	5.
TOTALS:					150,065	116,462	34,000	15,967	

TOTAL EXISTING ADJUSTED RECREATION FACILITIES SQUARE FOOTAGE PLUS PLANNED: 166,429

TABLE 2. CURRENT RECREATION FACILITIES INVENTORY (CONT.)	
CODE KEY (REFERENCE "CODE" COLUMN OF TABLE 2.)	
DC - DISTRICT CENTER	
SC - SENIOR CENTER (UTILIZED PRIMARILY BY SENIOR CITIZENS)	
PF - PROGRAM FACILITY (TYPICALLY SMALLER, MORE SPECIALIZED FACILITY WITH LIMITED RANGE OF PROGRAMS)	
NOTES (REFERENCE FAR RIGHT COLUMN OF TABLE 2.)	
1. THE CITY-OWNED YOUTH MEMORIAL CENTER IS CURRENTLY LEASED IN TOTAL TO THE YWCA. CURRENT DISCUSSIONS CONCERNING RETURNING FACILITY TO CITY MANAGEMENT / PROGRAMING / JOINT USE ARE UNDER WAY. PROPOSED SQUARE FOOTAGE CALCULATED AT 50%, ASSUMING A NEW JOINT USE AGREEMENT.	
2. PROJECTED SQUARE FOOTAGE NEEDS ARE EXTRAPOLATED FROM THE POINT PINOLE / HILLTOP DEVELOPMENT FEE AREA ADOPTED BY THE CITY COUNCIL ON 4/23/90.	
3. PRELIMINARY PLANNING COMPLETED FOR PROPOSED EL SOBRANTE SWIM CENTER; FINAL SQUARE FOOTAGE MAY BE ADJUSTED DOWNWARD.	
4. HILLVIEW CENTER IS LEASED FROM R.U.S.D.; SHARE USE AGREEMENT. INTENDED AS TEMPORARY FACILITY.	
5. WHEN NEW EL SOBRANTE FIRE STATION IS COMPLETED, AN OPPORTUNITY WILL EXIST TO CONVERT THE OLD (TEMPORARY) STATION ON MORNINGSIDE DRIVE INTO A PROGRAM FACILITY. WOULD REPLACE HILLVIEW CENTER.	

of Alvarado Park, a portion of Wildcat Canyon Regional Park, has been included in the total city park acres since it also fulfills a "citywide park" function with certain rights given to the City of Richmond through agreements with the Regional Park District.

5. The city's current park acreage deficiency citywide is estimated at 13.8 acres, based on the current standard of 3 acres per 1,000 persons and the adjusted total of 248.48 existing park acres.
6. Richmond's "holding capacity" or ultimate population at buildout is being updated as part of the Richmond General Plan update. The Planning Department in April 1992, estimated Richmond's "buildout" population at 95,000, assuming no major annexation of unincorporated areas. This would add an additional 7,500 persons to the current population and require an additional 22.5 park acres based on the 3 acres per 1000 persons standard. Combined with the existing deficiency of 13.8 acres, this amounts to an additional 36.3 park acres estimated to be needed between now and buildout.
7. The City should be able to meet its present and future projected park acreage needs, provided that it pursues a range of approaches including acquiring additional land wherever feasible through dedication, purchase, lease or other means; establishing shared use of facilities with the School District and with other jurisdictions where appropriate; adding recreational trails; and exploring opportunities for adding "infill" park acreage in built-up neighborhoods and in redevelopment areas.
8. Richmond is richly endowed with regional park and recreation facilities located either in shoreline areas within the City or in directly adjacent hilly areas. These include four regional shoreline parks, one regional park, one regional preserve, and one regional recreation area, all owned and maintained by East Bay Regional Park District (EBRPD). (See Figure E-1 and Table E-3.) Total acreage is 5,636 acres.

East Bay Regional Park District (EBRPD) maintains one Regional Park, 4 Regional Shorelines, and one Regional Preserve within Richmond:

o Wildcat Canyon Regional Park*	2,428 Acres
o Brooks Island Regional Shoreline	373
o George Miller Jr./John T. Knox Regional Shoreline	259
o Point Isabel Regional Shoreline	21
o Point Pinole Regional Shoreline	2,147
o Sobrante Ridge Reg. Preserve	277
TOTAL	5,541 Acres

* Includes Alvarado Park.

One additional parkland facility, Kennedy Grove Regional Recreation Center, 95 acres, is located in the County unincorporated area bordering on the City of Richmond, at the eastern end of El Sobrante Valley.

The four Regional Shorelines presently owned and maintained by EBRPD represent a substantial amount of Richmond's shoreline. The regional shorelines and Wildcat Canyon Park are used not only by residents of Richmond but also by the general public within the San Francisco Bay Area region.

EBRPD has a Master Plan for Brooks Island that calls for preservation of the island's native grasslands and Indian shellmounds. One residence will be constructed for park personnel, but otherwise the island will remain undeveloped. When the island is ready for use, visitors will board a ferry shuttle from an undecided location. Studies indicate maximum island use should be 75 persons at any one time.

All of the parks are used heavily on weekends and holidays. EBRPD does not have data available on park users or their numbers.

Proposed EBRPD Expansion Within Richmond. The East Bay Regional Park District in its May 1988 revised Master Plan proposed the following additional regional parkland facilities within or adjacent to Richmond:

Regional Shorelines:

- o North Richmond Wetlands
- o Oakland-Richmond Shoreline
- o Point Molate

Regional Trails:

- o George Miller, Jr. to Emeryville
- o Kennedy Grove to Sobrante Ridge
- o Pt. Molate
- o Pt. Pinole to Martinez
- o Wildcat to Pinole

TABLE E-3
EAST BAY REGIONAL PARK DISTRICT FACILITIES
IN RICHMOND AREA

Park Or Facility	Acres	Facilities	Activities
Miller-Knox Regional Shoreline, Point Richmond at Dornan Drive	259.0	Picnic tables Parking Toilets	Fishing Picnicking Bicycling Jogging Hiking
Brooks Island Regional Shoreline, South of Richmond Inner Harbor (In Planning Process)	45.0	Island	Nature study Picnicking Fishing Hiking
Point Isabel Regional Shoreline, Central Avenue west of I-580	21.0	Picnic tables Toilets Parking	Dog walking Fishing Jogging Picnicking
Point Pinole Regional Shoreline Giant Road west of Pinole	2,147.0	Picnic tables Toilets Fishing pier Shuttle bus Parking	Bicycling Hiking Equestrian Jogging Picnicking Nature study Horseshoes
Wildcat Canyon Regional Park	2,419.0	Picnic tables Trails Parking	Hiking Jogging Picnicking
Sobrante Ridge Regional Preserve	277.0	Trails	Hiking Riding
Kennedy Grove Regional Recreation Area (County unincorporated area next to Richmond)	95.0	Picnic tables Playing fields Meeting Room Kitchen Senior Center	Hiking Sports Picnicking

Source: East Bay Regional Park District, October 1989

The EBRPD current expansion ideas also include expansion of Point Pinole and Miller/Knox Regional Shorelines, and expansion of Wildcat Canyon Regional Park. In December 1991 the District purchased land for expansion of the Miller/Knox Regional Shoreline at Ferry Point.

Many of the proposed trails are being planned with the Bay Trail in mind (See Richmond General Plan Circulation Map, 2 of 2). The Association of Bay Area Governments (ABAG) has a plan to build a 400 mile trail encircling the San Francisco Bay. Eventually the Bay Trail may connect to all seven major bridges in the Bay Area. ABAG describes the Bay Trail as an opportunity to reclaim the Bay shoreline for hikers and bicyclists throughout the nine counties in the region.

9. Richmond's city-provided recreation and park facilities can best be viewed, for planning purposes, at three distinct service levels: citywide, district, and neighborhood.
10. All City owned and/or City operated parks and recreation facilities are open and available for use to all residents citywide.
11. Geographic location of public parks and recreation facilities is critical to meeting the recreation needs of city residents, and influences the actual pattern of use of facilities to a great degree. Richmond, in particular, has geographically spread-out city limits; there are major physical barriers such as freeways and fixed rail lines which serve to divide subareas within the city; and several of its residential neighborhoods are isolated by physical location or barriers. An optimum set of recreation and park standards for Richmond, therefore, should address these locational factors.
12. For planning purposes it is useful to divide the City into eleven "service districts", each containing in the ideal situation at least one centrally located district recreation center; a number of neighborhood parks; and, in some cases, a citywide park facility. (See Figure E-2 at the end of Section E and Table E-4.) Assignment of parks and recreation centers to a given service district, however, is only done for planning and analysis purposes and does not imply "ownership" of that facility by the district, as all city facilities are open and available to all residents.
13. Richmond currently has four citywide park facilities owned and operated by the City: Marina Park and Green, Point Molate Beach Park, Nicholl Park, and Hilltop Lake Park (designated; not yet developed). Alvarado Park, originally a City park and now owned and operated by East Bay Regional Park District, is also included in Richmond's inventory of citywide parks. (See Finding #14 which addresses Alvarado Park.) Each citywide

park has a unique location, and provides a unique park or recreation resource on a citywide basis. The proposed North Richmond Park on the north side of Wildcat Creek represents a potential sixth citywide park facility.

14. Alvarado Park is included in Richmond's inventory of park and recreational facilities, even though it is owned and operated by East Bay Regional Park District as part of Wildcat Canyon Regional Park. Alvarado Park was originally a City of Richmond Park. The City - Park District agreement regarding transfer of ownership provides Richmond with certain specified rights of use. Furthermore, Alvarado is included on the City's checklist for federal Urban Park and Recreation Recovery Program (UPARR) and other funding sources. In the City's inventory Alvarado Park is listed as a citywide park facility; however only 50% of its total 42.46 acres, or 21.23 acres, are included in the City's inventory. This is consistent with the proposed policy for shared use recreational facilities.
15. Eight of Richmond's eleven service districts currently have district center facilities or a complex of facilities that are equivalent to a district center. The three service districts lacking a district center facility are: Marina Bay; Central/East Richmond; and Hilltop/ Fairmede Hilltop.
16. Richmond has two senior citizen centers, providing recreation space and programs as well as social services and a meeting space for elderly residents. Because of their exclusive orientation toward meeting the recreation and social needs of elderly persons, they are not included as district centers. The building area of senior centers, however, is included in calculating overall "recreational facility" space in the City, since the senior centers contribute to meeting the recreation facility needs of an important age group in Richmond's population.
17. Nine of Richmond's eleven service districts have one or more neighborhood park facilities, with total neighborhood park acreage ranging from 0.64 to 24.07 acres per district. The two districts without neighborhood parks are North Richmond and Parchester; however, each has a district center and park facility.
18. Analysis of the existing location of district centers and neighborhood parks in Richmond, using the recommended standards of one mile (for district center) and one-half mile (for neighborhood park) from all residential neighborhoods, indicates that Richmond's residential neighborhoods are

TABLE E-4
 RICHMOND'S 11 "SERVICE DISTRICTS":
 POPULATION, EXISTING AND PLANNED
 PARKS AND RECREATIONAL FACILITIES

TABLE 4. Richmond's 11 "Service Districts": Population, Existing and Planned Parks & Recreational Facilities						TABLE 4 - PAGE 1
DISTRICT NUMBER	1	2	3	4	5	6
DISTRICT NAME	SOUTHEAST /ANNEX	PARK/ PULLMAN	SOUTHSIDE	MARINA BAY	POINT RICHMOND/ BRICKYARD COVE	IRON TRIANGLE
1990 POP.	8,313	7,751	5,291	3,433	2,685	11,231
REGIONAL FACILI- TIES	POINT ISABEL	NO	NO	BROOKS ISLAND (PT. ISABEL)	MILLER- KNOX	NO
CITYWIDE FACILI- TIES	NO	NO	NO	MARINA PARK & GREEN	POINT MOLATE BEACH PK	NO
DISTRICT CENTER	EASTSHORE	JFK PARK & KENNEDY SWIM	MLK CENTER	NONE (MARINA BAY BOAT HOUSE)	WASH.PK PLUNGE/ CENTER	NEVIN CENTER & PARK
NEIGHB. PARKS	CRESCENT PK CENTRAL PK* MENDOCINO PL HUNTING- TON PL MONTEREY PL 55TH/ CREELEY PL	PLAZA 1 PK ABRAHAM BRAXTON PK	BOORMAN PK 5TH & VA. PL 2ND ST MINI PK MAINE PL	TRAILHEAD PK HARBOUR PK** PENINSULA PK**	HARRISON MINI PK JANICE PL	LUCAS PK ATCHISON PK MEMORIAL PK ELM PL STEWART PLGRND VA.& 18TH PL
RECR. TRAILS	REGIONAL SHORELINE TRAIL	OHIO RR ROW	OHIO RR ROW	REGIONAL SHORELINE TRAIL	REGIONAL SHORELINE TRAIL	

NOTES: * WITH CITY OF EL CERRITO
 ** PLANNED

ABBREVIATIONS: PK = PARK
 PL = PLAYLOT
 CTR= CENTER
 ROW= RIGHT-OF-WAY

TABLE 4. Richmond's 11 "Service Districts": Population, Existing and Planned Parks & Recreational Facilities					
DISTRICT NUMBER	7	8	9	10	11
DISTRICT NAME	CENTRAL/EAST RICHMOND	NORTH RICHMOND	PARCHESTER	HILLTOP/ FAIRMEDE- HILLTOP	EL SOBRANTE
1990 POPULATION	25,568	1,144 (City portion)	1,143	8,093	12,773
REGIONAL FACILITIES	ALVARADO PARK (WILDCAT CANYON)	NO	PT. PINOLE	(PT. PINOLE)	SOBRANTE RIDGE/ WILDCAT CANYON/ KENNEDY GROVE
CITYWIDE FACILITIES	NICHOLL PARK ALVARADO PARK #	NO ++	NO	HILLTOP LAKE PARK **	NO
DISTRICT CENTER	NONE @	SHIELDS- REID PARK & CENTER	PARCHESTER CENTER & PARK	NONE	HILLVIEW COMM. CENTER ##
NEIGHB. PARKS	BELDING GARCIA PK WOODS SCHOOL PK WENDELL PK BURG PK TILLER PK MIRA VISTA PK HUMPHREY PL CLINTON PL SOLANO PL KERN PL HUMBOLDT PL	NO	NO	HILLTOP PK FAIRMEDE PK	HILLTOP GREEN PK RAIN- CLOUD PK LAMOINE PK
RECR. TRAILS	OHIO RR ROW/URBAN CREEKS TRAILS	REGIONAL SHORELINE TRAIL/ URBAN CREEKS TRAILS/ PARKWAY BIKE CORRIDOR	REGIONAL SHORELINE TRAIL/ PARKWAY BIKE CORRIDOR	REGIONAL SHORELINE TRAIL/ PARKWAY BIKE CORRIDOR	REGIONAL PARK TRAILS

NOTES:

Also listed under Reg.
Parks.
@ YWCA conversion being
considered

++ North Richmond
Park (planned) -
a potential citywide
park

** Planned

A new El Sobrante
Community/Swim Center
is proposed

ABBREVIATIONS:

PK = PARK
PL = PLAYLOT
ROW = RIGHT-OF-WAY

generally well served with respect to the location of district center facilities and neighborhood parks. (See Figures E-3 and E-4 at the end of Section E.) Some spots of weakness were observed, however; there exist some residential areas not within one mile of a district center facility, and some areas not within one-half mile of a neighborhood park.

19. Most of the developable land in the City of Richmond is already built out. As a result, there may be no realistic opportunity in some areas to correct existing deficiencies in the location and distribution of recreation and park facilities -- especially in some densely developed residential areas. This could mean that the City and its residents may have to "live with" some of the deficiencies in the geographical distribution of parks and recreation sites in some areas of Richmond. (See Addendum 1 of this Section for current ratio of park acres to population for the City's eleven service districts.)
20. Richmond Unified School District playgrounds and recreation facilities meet some of the recreation needs of the city's residents, although they are not included in the inventory of city facilities. Existing School District facilities represent one potential way to meet some of Richmond's current recreation deficiencies and/or to expand the city's overall inventory. This could be accomplished either through City acquisition of surplus School District facilities, or through shared-use agreements between the School District and the City. In past years Richmond Unified and the City jointly used a number of facilities through shared-use agreements.
21. The need for swim center facilities in Richmond, and the City's comprehensive plan to address these needs, were addressed in a major study, City of Richmond Citywide Aquatics Master Plan completed in January 1991. The two Richmond neighborhoods containing aquatic facilities view these as their own "neighborhood swim center," while at the same time the facilities are in fact open to all city residents. In the analysis of Richmond's recreation facilities, the swim centers have been categorized as part of district center facilities, rather than as citywide or neighborhood facilities.
22. Several neighborhood parks, mini parks, or playlots in the City's current inventory are small, marginally used, and need to be analyzed further in terms of their ongoing viability. At some of these facilities a pattern of drug and alcohol activity, use by homeless persons, and vandalism and other criminal activity has been observed, reducing the park's "attractiveness" and driving away the neighborhood residents from using the park.

23. There is a widespread need and demand from citizens for new and upgraded equipment for young children at many of the City's playlots and "totlots." In addition, due to the City's changing demographics, some new residential areas with a growing population of young children now require playlots and "totlots" while in some older neighborhoods the children have mostly grown up and existing playlots are less utilized.
24. The City's maintenance budget for its current inventory of parks and recreation facilities is strained and limited. Current levels of maintenance are adequate but are hampered by the deteriorated state of most of the facilities. In addition, numerous city facilities need substantial upgrading of facilities and equipment. Future addition of several new park or recreation facilities is anticipated, but the city's ability to provide adequate maintenance of additional facilities is of particular concern to the Commission.
25. It may be cost-effective to the City and more satisfactory to residents, overall, to close down some of the smaller, underutilized city park facilities, and to better use the city's resources by consolidating or expanding other relatively larger facilities instead.
26. Planning of recreation and parks facilities in Richmond is presently a shared function of the Human Services and Public Works Departments. Both departments have limited staff resources to devote to the recreation and parks planning function. The City currently does not have a designated parks planner or a staff person specifically trained in parks planning. In the long run, City budget resources permitting, it is desirable for the City of Richmond to have a full-time recreation and parks planner. In the interim, a parks planning process can be maintained by the Recreation and Parks Commission taking a stronger "oversight" and planning role, with continued staff support from the Human Services and Public Works Departments, and supplemented by outside consultant assistance whenever needed for specific focused planning efforts and for the planning and design of specific facilities.

Findings Related to Park Standards

1. The Recreation and Parks Commission is charged with the responsibility to ensure that the City's recreation and park standards are met and maintained, to the extent feasible.
2. Standards for City park and recreation facilities serve as useful tools to assist the city to measure and evaluate the extent to which its residents' recreation facility needs are being met. The standards are not intended as scientific

measures, and need to be interpreted and qualified in their application to individual service districts and neighborhoods.

3. The 1989-90 Contra Costa County Grand Jury recommended that Contra Costa cities acquire at least four acres of parks per 1,000 population, consistent with the County General Plan.
4. The existing Richmond park standard of three acres of parks per 1,000 population is deemed still valid and appropriate for Richmond, based on several considerations. Richmond's city park acreage is supplemented by a vast acreage of regional park facilities readily accessible to residents in all of Richmond's service areas. Several of the regional parks fill some of the recreational functions normally provided by neighborhood, district, or citywide parks. Furthermore, attaining a higher ratio of city park acres per population does not necessarily translate into a higher level of service. The Commission recognizes that design, location, equipment, and maintenance may be more crucial to the success of a park or play space than size. The "park acres per population" standard, in Richmond's case, is viewed as one important standard to be applied in conjunction with other standards -- standards that address proximity of district and neighborhood facilities to residential areas, and how much recreation facility building space per capita is provided.
5. Because geographic location of public park and recreation facilities is critical to meeting residents' needs, and because Richmond has unusually spread-out city limits, it is appropriate for Richmond to have "locational" type park and recreation standards, in addition to a park acres per population standard. An example of a locational standard is: a district center facility within one mile of each residential neighborhood.
6. A one mile radius is a reasonable service area and distance between a district recreation center and the surrounding residential neighborhoods it serves. Since this standard is widely used by other jurisdictions as well, it can be assumed that residents normally are willing to travel up to one mile to take advantage of the special facilities a district center can provide.
7. One-half mile is a reasonable distance for defining the optimum "service area" between a neighborhood park and the surrounding neighborhood it serves. Children, families, and parents with small children are able to use a neighborhood park conveniently, if it is located within one-half mile of their homes.
8. One square foot of recreational facility building space per capita is considered a reasonable standard for the amount of

public recreational facility space needed to meet residents' recreational facility needs. The standard was originally based on the specifications of the Eastshore Community Center and the population of its surrounding serving area, and has proven to be a useful and appropriate standard.

9. The one square foot per capita recreational facility standard and the 3 park acres per 1000 population standard are both useful in providing a link between the Richmond General Plan, the park standards, and the City's public facilities fee in developing areas.

Highlighted Findings Related to Specific Service Districts

1. Marina Bay. The present Marina Bay Boathouse facility provides only minimal district center facilities. The Marina Bay service district will require a larger facility in the future, which, combined with the Boathouse, can provide a district center that meets the city definition.
2. Central/East Richmond. This very large service district has no district center facility. One citywide park is located in the district (Nicholl Park, 21.25 acres), and Alvarado Park, part of Wildcat Canyon Regional Park, is located directly adjacent to the service district at its east end. 50 percent of the Alvarado Park acreage is included in Richmond's park inventory as a "citywide park." The existing YWCA facility represents a potential resource, and its conversion to a city operated district center facility (if it becomes available) is being considered.
3. Hilltop/Fairmede Hilltop. This service district also lacks a district center facility. Its population has grown dramatically since the mid 1980s, and substantially more residential growth is projected in "Hilltop West" (west of San Pablo Avenue) and in part of the Pinole Point area. Because it contains large underdeveloped land areas, the Hilltop service district may offer the best possibility for future park development and expansion of the city's overall park inventory.
4. El Sobrante. This very large service district is currently served by one district center (Hillview Community Center), which is not in a central location and occupies a surplus school building. In addition, the City has been providing limited recreation services by utilizing the De Anza High School gymnasium. A major new El Sobrante community center and swim facility is proposed for a more central location in El Sobrante Valley. The planning process for the new complex is underway, but funding is not yet secured. Project implementation is expected to take several years.

Recommended Standards

The following standards were recommended to the City Council by the Richmond Recreation and Parks Commission in its October 1991 Report (referred to earlier). These standards have been incorporated into the Growth Management Element as performance standards.

City park acreage standard:

3 acres per 1,000 population.¹

City recreational facility standard:

One square foot of recreational facility building space per capita.²

Locational standards:

A district center facility located within one mile of each residential neighborhood.

A neighborhood park facility located within one-half mile of each residential neighborhood.

OPEN SPACE

"Open space" is any parcel or area of land or water that is essentially unimproved and devoted to any of the following: preservation of natural resources; managed production of resources; recreation; and public health and safety.

Section B, earlier, included a summary description of the vegetation and wildlife within Richmond and the Richmond Planning Area. This section will describe the open space resources generally, within Richmond and its Planning Area.

¹ Applies citywide and on a service district basis. Includes city developed and planned (not yet developed) park sites. Includes recreational trails. Does not include regional park acreage, school district facilities, or any other jurisdiction's facility acreage, unless covered by a shared-use agreement, in which case 50% of the facility's acreage is applied toward meeting the city standard. Does not include recreation center building space.

² Applies citywide and on a service district basis. May include 50% of the recreation facility space of any non-city owned and operated facility (i.e. regional, school district, other jurisdiction, or private facility) if covered by a shared-use agreement with the city. Senior centers are included in calculating citywide compliance with standard.

The open space preserved in the Tri-Cities Area (Richmond, El Cerrito, and San Pablo) and which is considered permanent includes (See Figure E-5):

	<u>Approximate</u> <u>Acres Land and Water</u>
Federal (Point Molate)	303
East Bay Regional Park District*	5,263
East Bay Municipal Utility District	992
City Parks (Richmond, El Cerrito, San Pablo)	419

TOTAL	6,977
* 6 EBRPD facilities in Richmond plus Kennedy Grove	

Additionally, there are thousands of acres of offshore water which is also considered permanent open space. These waters form a vast and beautiful "blue belt" of open space for the area, with public use rights.

Park Lands

Park lands owned by City of Richmond and East Bay Regional Park District have been described above. All three West County cities, Richmond, El Cerrito, and San Pablo, maintain extensive park systems, which are shown as open space in each city's Open Space and Conservation Element.

The East Bay Regional Park District, however, is the largest landowner in the area. Point Pinole, Wildcat Canyon, and Tilden Regional Parks each total well over 2,000 acres. (Tilden Regional Park borders on the City of Richmond at its northern end.)

Watershed Land

992 acres of watershed land owned by the East Bay Municipal Utility District are within the Tri-Cities Area and surround San Pablo Reservoir. EBMUD has made the Reservoir available to boating, fishing and other water-related recreation, greatly increasing the recreation opportunities in the West County area.

The District manages the 992 acres in the Tri-Cities area to accomplish the multiple goals of recreation, fire hazard reduction, and wildlife protection. In addition to recreation provided at San Pablo Reservoir, the reservoir area is closed between mid-November and mid-February to protect large populations of migratory waterfowl and their predators. In particular, the Bald Eagle and Aleutian Canada Goose, endangered and threatened species, respectively, use the reservoir area during this time period. The Aleutian Goose is also known to winter on District property in the Oursan Valley, adjacent to the Carriage Hills South residential development.

The Bay Area Ridge Trail, planned to skirt the northern perimeter of District land in the Tri-Cities area, is being planned so that the route avoids any disturbances to these species.

Grazing is conducted in this entire area and provides a valuable method for reducing the build-up of flammable vegetation in widespread grasslands. (See Section B for further discussion of vegetation and wildlife, including rare and endangered plants and animals.)

Federal Land

The Point Molate Naval Fuel Depot, a 303 acre site located on San Pablo Peninsula and fronting on San Pablo Bay, may be declared surplus in the future. It represents an important potential open space resource. East Bay Regional Park District views Point Molate as land of regional significance for potential open space for several reasons: the high quality of the shoreline and land environment for vegetation and wildlife; the potential for increased public access to the shoreline and for linkage along the shoreline to other Park District land; and the presence of historically significant buildings.

Existing Open Space in General Plans

Richmond: Richmond's Open Space and Conservation Map indicates open space in Wildcat Canyon; on some of the unstable slopes of San Pablo Ridge; on Sobrante Ridge; at Point Pinole; Point Richmond; and the marshes and mudflats of North Richmond.

San Pablo: Besides existing parks, San Pablo's Plan adds a linear open space area along San Pablo and Wildcat Creeks, a new hillside park east of Interstate 80, and new parks next to schools.

El Cerrito: El Cerrito's plan adds a portion of the Santa Fe right-of-way and the power line corridor to existing parks.

Shoreline Public Access

Fishing, bird watching, boat watching, etc. remain popular activities at the water's edge. Public access to Richmond's shoreline is presently limited to the shoreline from Point Isabel to Marina Bay, Miller/Knox, Keller's Beach, Point Molate and Point Pinole. Existing facilities in Marina Bay include a public boat launching area with restrooms and adequate trailer parking. As mentioned previously, there is interest by the EBRPD and the City to link certain sections of the Richmond shoreline with a regional trail system, thereby providing continuous public access.

The Bay Conservation and Development Commission (BCDC), a State-empowered regulatory agency, has land use approval powers over a 100-foot band inland from the high tide point around the San Francisco Bay. BCDC routinely requires public access to the shoreline as a condition of project approvals.

PUBLIC SAFETY FACILITIES

Public safety services -- in particular, police and fire -- are probably the most visible and familiar public services provided by a city. In Richmond, these services represent the largest expenditure of general funds. Emergency medical services are typically provided by private companies in conjunction with the Fire Department. Below is a brief discussion of the public safety facilities and services in Richmond.

Police Services

The Richmond Police Department (RPD) provides policing services to all of the incorporated areas of Richmond, although in some areas their responsibility is jointly shared. For example, joint responsibility occurs in the following areas:

1. In Chevron USA's refinery operations, shared with private security forces.
2. In Point Molate, with RPD responsibility superceded by military police.
3. In East Bay Regional Parks, shared with park police force.
4. In the U.C. (University of California) Field Station, supplemented by one officer of the U.C. police force.
5. In Bay waters, shared with U.S. Coast Guard.
6. In certain shoreline areas such as marshes, shared with security forces from State Fish and Game Department.
7. On State and Interstate highways, shared with the California Highway Patrol.

Bay Area Rapid Transit (BART) police have responsibility for patrolling BART trains, stations, parking lots, and other facilities.

The Contra Costa County Sheriff's Department and the California Highway Patrol (CHP) police the unincorporated county areas of North Richmond, El Sobrante, and East Richmond Heights.

Mutual assistance agreements exist between RPD and nearby cities such as El Cerrito, San Pablo and Pinole. In the Richmond Annex area near Point Isabel, El Cerrito police are often the first called to a scene.

Richmond has one central police station, located in the Civic Center on 27th Street between Barrett and Macdonald Avenues. There are currently ten (10) beats and five (5) districts covering the

City. The RPD has 186 authorized sworn positions, a ratio of almost 2.13 positions per 1000 population, which is higher than the usual national standard of 1.7 per 1000.

Starting in late 1992 and early 1993 RPD will operate offices or "satellite police facilities" in a few neighborhoods of the City, beginning with El Sobrante (located within the new Fire Station building at Amend and Valley View Roads), City Center (at Harbour Way and Macdonald Avenues), and Hilltop. Each field office will be manned by police personnel for only a limited number of hours per week.

The Police Department usually meets its established response time of three to five minutes or less for "hot calls" (robberies in progress, shots fired, imminent danger to life, etc.). A seven-minute response time is typical in the areas served by the County Sheriff. A system of dispatching in which calls are prioritized according to their seriousness is used in Richmond.

As a matter of policy, the RPD does not respond to calls outside its jurisdiction unless specifically requested by the other agency. This policy is sometimes superceded, usually when a crime is in progress or a "criminal in chase" occurs.

RPD has indicated that residential areas, by far, are the most crime-inducing land use. Industrial areas pose few crime problems, often because of the presence of private security forces. The department uses computers in their crime analysis section to monitor the frequency of criminal activity in specific areas. These statistics enable the RPD to know when and how to allocate officers from one beat or district to another to meet current service demands. Underdeveloped areas, such as those north and west of North Richmond, are a problem due to the lack of accessibility.

RPD no longer has the capability to undertake aerial or waterborne policing activities on its own. However, the Department does receive aerial surveillance assistance from the California Highway Patrol and the East Bay Regional Park District.

The crime ratios for the City of Richmond as a whole are higher than those of nearby cities. As shown in Table E-5, the incidence of crime in Richmond is almost twice the statewide rate. This fact, especially when combined with media coverage of such statistics, has contributed to the negative image some people hold of the City of Richmond.

TABLE E-5
CRIME RATES 1990: RICHMOND, OTHER BAY AREA CITIES, AND STATE OF CALIFORNIA

	<u>Population</u>	<u>CI* Total</u>	<u>Crime Rates per 1,000 inhabitants:</u>		
			<u>All Crimes</u>	<u>Violent/1</u>	<u>Property Crime/2</u>
California	29,760,021	1,965,237	66.04	10.45	55.58
Richmond	87,425	10,026	114.69	30.11	84.58
Berkeley	102,724	12,757	124.19	15.17	109.02
Martinez	31,808	1,283	40.35	2.83	37.48
Oakland	372,242	40,909	109.90	15.70	94.19
Piedmont	10,602	346	32.64	1.23	31.42
Concord	111,348	7,022	63.06	5.24	57.83
El Cerrito	22,869	1,942	82.57	7.78	77.55

* "CI" = Crime Index: Total number of reported "type one" crimes (murders, rapes, robberies, aggravated assaults, burglaries, larcenies, automobile thefts, and acts of arson).

/1 = Violent crimes are offenses of murder, forcible rape, robbery and aggravated assault.

/2 = Property crimes are offenses of burglary, larceny-theft, and motor vehicle theft.

Source: Crime in the United States: Uniform Crime Reports, United States Department of Justice, Federal Bureau of Investigation, August 11, 1991.

Fire Fighting and Prevention Services

The Richmond Fire Department (RFD) has a staff of 113 organized to provide fire fighting, fire prevention, emergency medical, and hazardous materials services. Emergency response elements include seven (7) engine companies and one aerial ladder company assigned to seven fire stations strategically located throughout the City (see Table E-6 and Figure E-7 at the end of Section E). Fire prevention and administrative elements are located in the department's administrative headquarters.

The Richmond Fire Department is the lead agency for an area fire defense consortium whose emergency units and resources respond across jurisdictional boundaries as a single organization. Mutual response agreements among the Richmond and El Cerrito Fire Departments, the West County and Kensington Fire Districts, and the Chevron Refinery and U.S. Naval Point Molate Fuel Depot provide a combined fire fighting force of 15 fire companies.

The Insurance Services Office (ISO) rates the City of Richmond's fire defenses as Class III for urban areas and Class IX for wild land areas. The ISO rating scale assigns Class I as best and Class X as poorest.

A fire station at Morningside Drive operated as an interim station serving the El Sobrante area until a permanent station at the intersection of Amend and Valley View Roads was constructed in 1992. The new permanent station, Fire Station No. 63, was opened in September 1992.

TABLE E-6
RICHMOND FIRE STATIONS

<u>No.</u>	<u>Location</u>	<u>Station Unit(s)</u>
61	140 West Richmond Ave. (Pt. Richmond)	1 Engine Company
62	1065 - 7th Street (No. Richmond)	1 Engine Company
63	5201 Valley View Road (El Sobrante)	1 Engine Company
64	4801 Bayview Avenue at Carlson	1 Engine Company/ 1 Aerial Ladder Company
66	4100 Clinton Avenue at 41st St.	1 Engine Company
67	1131 Cutting Boulevard at 12th St.	1 Engine Company
68	2929 Hilltop Drive at R.H. Miller Drive	1 Engine Company

The majority of responses handled by the RFD are medical calls; an engine company responds to medical emergencies in the City. All Richmond firefighters are trained as Emergency Medical Technicians. The department is able to send its first two engines to a call

within six minutes 87% of the time. Greater response times are often required for the El Sobrante area and several Shoreline areas (Point Isabel, the peninsula of Marina Bay, Parchester Village, and the Bay's edge of the Point San Pablo peninsula), either as a result of distance, traffic congestion or general inaccessibility.

In 1988 and 1989 several major fires occurred in Richmond. In all cases the RFD's "Authorized Response" arrangements with neighboring cities went into effect. Essentially, the Richmond Fire Department fought the blazes in Richmond while companies from El Cerrito, Pinole, and/or the West County Fire District staffed the City of Richmond's facilities and responded to any emergency calls.

The June 1988 fire in the Safeway warehouse located along the Knox Freeway (across from Easter Hill) was one of the largest fires in the state's history. Richmond fire fighters had difficulty reaching the flames due to the size and contents of the warehouse. RFD chose to control and contain the fire until it extinguished itself at the end of eight days.

The United States Postal Service Bulk Mail Facility on Point Isabel experienced a large fire in February 1989. The Richmond Fire Department has no jurisdiction or authority over federal properties and does not enter federal installations unless by invitation. Despite their lack of familiarity with the facility, the RFD was able to confine the fire. By contrast, the federal Social Security Administration building in downtown Richmond has invited the RFD to perform regular evacuation drills so that in the event of an emergency the Department can respond effectively.

The third major fire occurred at the Chevron USA oil refinery in April 1989, injuring several refinery workers. Fire departments responding to the blaze included the Chevron refinery fire department, the Richmond Fire Department, and fire fighters from five other nearby refineries within the "Petrochemical Mutual Aid Group."

The RFD received assistance from the Chevron fire fighting crew and Point Molate Navy Fuel Depot personnel during a fire in June 1989 at a large tank owned by PG&E in Point Richmond. The two assisting crews delivered large quantities of foam concentrate which the RFD used to control the fire. In past emergency situations these units have been similarly helpful.

Older buildings, particularly those that are poorly maintained, are cited as a major problem for the RFD. Dry season brush fires are also common in the hillside areas.

As of 1992 the RFD's plans for upgrading its equipment and training included the addition of a hazardous materials team with a specially outfitted truck. To meet its need for marine fire-fighting capabilities, the RFD has an arrangement with Chevron

Refinery, which has tugboats fitted with fire-fighting equipment. The Coast Guard has a limited ability to fight Richmond marine fires.

Ambulance Services

Emergency ambulance services are provided privately by Regional Ambulance Service and are coordinated with the Richmond Fire District. The ambulances are in direct radio and telephone contact with the Richmond Fire Department and are dispatched directly by the RFD. All ambulance rigs are staffed with paramedics. Response times are comparable to those mentioned for the RFD above.

Emergency/Disaster Management

An "emergency" is a disaster situation or condition of extreme peril to life and/or property, resulting from other than war or labor controversy, which is or is likely to be beyond local capability to control without assistance from other political entities.

"Emergency and disaster management" refers to the effective management of emergency forces involved in preparing for and responding to situations associated with natural disasters, technological disasters or incidents, and nuclear emergencies. Emergency management is the provision of overall operational control and/or coordination of emergency operations -- whether it be the actual direction of field forces or the coordination of joint efforts of governmental and private agencies in supporting such operations.

Potential hazardous situations in the City of Richmond have been identified as follows:

- o major earthquake
- o hazardous materials incidents
- o imminent or actual flooding
- o imminent or actual dam failure
- o nuclear emergencies
- o wildfires
- o landslides

The City of Richmond has a Multi-Hazard Functional Plan (MHFP) which was prepared and made operational in 1987. The Richmond MHFP plan objectives are:

"to incorporate and coordinate all the facilities and personnel of the City into an efficient organization capable of reacting adequately in the face of any disaster; and to conduct such operations as the nature of the disaster deems necessary, whether it be to combat a local emergency or to assist other jurisdictions should they suffer an emergency."

The Richmond MHFP contains the following operational components and the Plan outlines the emergency response in each case:

- o Managing emergency operations
- o Fire and rescue operations
- o Law enforcement and traffic control operations
- o Medical operations
- o Public health operations
- o Coroner operations
- o Care and shelter operations
- o Movement operations
- o Heavy rescue operations
- o Construction and engineering operations
- o Resources and support operations

A City of Richmond emergency services office is located within the Public Works Operations Center at 1230 Bissell Avenue. Its function is to coordinate the disaster preparedness planning and training for the City of Richmond and its neighboring cities: El Cerrito, San Pablo, Pinole and Hercules.

A permanent Emergency Operations Center (EOC) has been established in the Hall of Justice Building at Civic Center. In the event of a major emergency, the EOC will be used to conduct and coordinate emergency operations and post-disaster recovery, and to provide continuity of government.

An alternate EOC has been established at Bayview/Carlson Fire Station (Fire Station #64) at 4801 Bayview Avenue. The alternate will be used in the event the primary EOC in the Hall of Justice Building becomes unsafe to occupy.

In the event of a disaster or emergency, the primary responsibility for response rests on the local public agency closest to the location of the disaster or emergency. If the disaster and the necessary response exceed the capability and resources of the local agency, there is a hierarchy of response levels which will be activated including the County, the State, and the Federal government. The Contra Costa County Office of Emergency Services (OES) is located in Martinez.

To facilitate the implementation of the Multi-Hazard Functional Plan, the City conducts training sessions on an ongoing basis. Moreover, a complete upgrade of the City's communications network was underway in 1992.

PUBLIC INFRASTRUCTURE FACILITIES

Public infrastructure consists of a range of facilities including water, sewer, storm drainage, flood control, and solid and liquid waste disposal facilities; gas and electrical utilities; telecommunications facilities; and local government facilities.

Sanitary Sewer Facilities

Three separate districts regulate sanitary waste water in Richmond. As indicated in Figure E-8 (at the end of Section E), they are as follows:

Richmond Municipal Sewer District. Primary and secondary treatment of wastes are processed at the District's Waste Water Treatment Plant, a facility located at 601 Canal Boulevard. The treatment plant capacity is limited to 40 million gallons per day (mgd) during wet weather conditions. However, secondary treatment is provided only up to 16 mgd. After that number, the system cannot meet coliform standards. Dry weather flows average about 5 1/2 to 6 mgd. Typical operational procedure is to run half the system in summer while performing maintenance on the other half. During heavy winter storm flows, the entire system operates. There are two overflow structures, one located at Harbour Way South and Wright Avenue, the other at Cutting Boulevard near the old boat launch.

In 1991 The Richmond Municipal Sewer District began a major capital improvement program covering a ten year period to overhaul its Waste Water Treatment Plant and sewer collection system. The program includes Phase One of implementation of the newly mandated Federal regulations designed to address the problem of pollution associated with storm water discharges. Also included are major plant modifications and improvements to upgrade plant performance and reliability.

The Sewer District expects to undertake relatively major work renewing old sewers and upsizing mains which are too small to handle new development. The pace of improvements should be sufficient to meet current needs and to create necessary sewer capacity as future demands for that capacity increase.

West Contra Costa Sanitary District. Primary and secondary treatment is performed at a facility located at 2377 Garden Tract Road in North Richmond. Current average dry weather flow is approximately 7.0 mgd (million gallons per day). The treatment plant capacity is 9.5 mgd average dry weather flow, 12.5 mgd average wet weather flow, and a 21.0 mgd peak capacity to the deep water outfall in San Francisco Bay. The sanitary sewer maintenance facility and administrative office is located at 2910 Hilltop Drive in Richmond. Although the majority of sewer lines are 30 to 50 years old, the District inspects and upgrades or replaces sewer

lines on an ongoing basis as needed, based on several factors including capacity, age, slope, and structural soundness. Certain zones within the sanitary sewer collection system experience high infiltration rates due to condition of main lines and private laterals and high groundwater levels.

Stege Sanitary District. The Stege Sanitary District is only a collection center, and does not provide treatment. All waste water is pumped to the East Bay Municipal Utility District (EBMUD) treatment plant in Oakland adjacent to the Bay Bridge. Wet weather overflows are directed to the EBMUD facility located at Point Isabel (see below). The Stege Sanitary District has recently undertaken massive renewal projects due to deterioration of their sewer pipes. Stege has not experienced the same growth pressures as Richmond. The Stege District expects to be able to adequately meet future demand for its services. Stege District is participating in a cooperative 20-year program of sewer improvement projects along with Alameda, Albany, Berkeley, Emeryville, Oakland, and Piedmont. The first five years of the 20-year program was completed at the end of 1991.

East Bay Municipal Utility District. EBMUD maintains and operates the Wet Weather Treatment Plant, an overflow collection plant, at Point Isabel in the southeastern corner of Richmond. The Wet Weather Treatment Plant is part of EBMUD's North Interceptor Wet Weather Facilities project. The project consists of nearly 2 miles of large interceptor pipeline, a 24 million gallon per day pump station, and the Pt. Isabel Wet Weather Treatment Plant. The purpose of the treatment plant is to divert excess wet weather sewer flows from community sewers in El Cerrito, Albany and Berkeley. This plant is only in operation during extreme winter storm events. Waste water is treated and then deposited into the Bay along the shoreline. EBMUD was scheduled to begin construction in July 1992 of a new wet weather treatment plant at Point Isabel to replace the old facility. Construction was expected to be completed by October 1993.

Flood Control and Storm Drainage Facilities

As recently as the 1960s the North Richmond area and portions of the City of San Pablo experienced massive flooding of San Pablo Creek. In the years since that time major progress has been made in improving Wildcat and San Pablo Creeks and routing drainage water underground and out to the Bay. Flood control currently consists mostly of upgrading storm drains in conjunction with major highway projects (the Castro Ditch project off of Route 93, for example) and continued improvements to and management of Wildcat and San Pablo Creeks.

As mentioned earlier in Section B, the U.S. Army Corps of Engineers began in August 1986 a major six-year flood control construction project on Wildcat and San Pablo Creeks. The overall objective was

to provide flood protection from the 100-year frequency flood flow event. Under post-project conditions, the 100-year flood flows will be contained within the creeks' channel banks.

New land development increases storm runoff into the creeks and storm drains by increasing impervious surface areas such as streets and roofs. Resulting runoff contains many pollutants, including pesticides, oil, gasoline, and eroded soils from construction sites. Part of the task of flood control and storm drainage management is to control the amount and type of material entering the creeks and ultimately the Bay.

The U.S. Army Corps of Engineers and the Contra Costa County Flood Control District jointly manage the existing open creeks mentioned above. The restoration of Wildcat and San Pablo Creeks will improve storm water drainage within the two watersheds and will help prevent large amounts of sediment from being deposited downstream. This will increase the hydraulic capacity of both creeks.

Solid Waste Disposal Facilities and Management

The Richmond Sanitary Service currently manages the City of Richmond's refuse collection and disposal. Richmond Sanitary Service operates the West Contra Costa Sanitary Landfill at the foot of Parr Boulevard (see Figure E-8). The landfill currently accepts solid waste from Contra Costa and Marin Counties. The WCC landfill is expected to reach its permitted capacity between September 1993 and February 1994 if the current pace of deliveries continues.

Plans have been under review for two main options to deal with the impending shortage of solid waste landfill space. One option calls for building a transfer station and depositing refuse in a new landfill site which has not yet been confirmed but will probably lie 45 or more miles from Richmond.

The second option calls for implementing an Integrated Resource Recovery Facility (IRRF). Richmond Sanitary Service has developed plans for building an IRRF that will combine recycling, composting of organic wastes (including sewage sludge), conversion of waste into energy, and depositing the remainder of the solid waste into a landfill, as well as transfer station capabilities. The project includes two sites, one of which is 21 acres and wholly within the unincorporated area of North Richmond, and the other is the existing 350 acre landfill site which is located largely in the City and partially in the County.

The Central Facility would be located on the 21 acre site and would be the location for the waste receiving and processing building, a household hazardous waste facility, an administration building, a visitor's center, and vehicle maintenance and truck-wash buildings.

The plans for the 350 acre landfill include: 160 acres of Class II solid waste disposal, 28 acres of an inactive hazardous waste site, 80 acres designated for water-oriented use, and 12 acres containing the landfill gas recovery plant and future leachate treatment systems. All waste recovery operations would occur on a 60-acre section of the closed landfill. Operations would include concrete crushing, asphalt crushing, composting and soil recovery, and wood-shedding.

Although future plans for the West Contra Costa landfill site are still under study and are not definitely determined, after closure the City of Richmond would like to see the long-term use of the site converted to recreation lands, and is showing the landfill as open space, recreation lands, on the General Plan land use diagram. The City recognizes that during the closure and monitoring of the site, which could last 30 years, recycling uses may occur on the property as an interim use.

The problems associated with the management of solid waste extend beyond the City limits of Richmond. In recognition of this, the cities and unincorporated area of Contra Costa County have joined together in the adoption of a joint solid waste management program.

The general goals of Contra Costa County's solid waste management program, and therefore of Richmond, are the same as adopted by the California Waste Management Board. They are (in order of priority) to:

- Reduce the amount of solid waste generated (source reduction);
- Recycle as much of the solid wastes as possible (recycling);
- Make use of the energy and nutrient value of the solid wastes (waste to energy and composting);
- Properly dispose of the remaining solid wastes (environmentally safe landfill disposal).

The major problem facing the area waste management program has been a lack of responsiveness in identifying future landfills. As noted above, the West Contra Costa landfill is filling rapidly and is expected to reach capacity between 1993 and 1994. Other Contra Costa County landfills are also at or nearing capacity as well. By 1990 the County had approved land use permits for two new landfill sites: Keller Canyon and Marsh Canyon.

A 1989 State law (AB 939), the California Integrated Waste Management Act of 1989, established a new integrated waste management planning process, including requirements for all counties and cities to meet adopted waste diversion goals for

source reduction, recycling and composting programs. As of early 1992 the County and the County's individual cities were still in the process of complying with the various components of AB 939, which include source reduction, composting, recycling, and landfill siting.

A new Contra Costa landfill facility was constructed in 1991 at Keller Canyon in Pittsburg and was expected to be ready to receive fill by April 1992. The landfill should provide capacity for Contra Costa County for 40 years or more. The City of Pittsburg challenged the landfill in several lawsuits, and one was still pending in early 1992. The County approval of the second new landfill site, Marsh Canyon, has also been challenged in lawsuits and one suit was still pending in early 1992.

Public Utility Facilities

Water. The East Bay Municipal Utility District (EBMUD) has jurisdiction over the water service lines in Richmond. Potable water is supplied via the San Pablo Dam from the Mokelumne River in the Sierra Nevada Mountains and from local rain-fed reservoirs. Groundwater is only utilized for some irrigation purposes.

In the past 25 years the number of customers served by EBMUD has increased 20% and water use by 30%. In order to continue to provide adequate service EBMUD proposes the following plans for its overall service area:

- o improve water conservation and reclamation;
- o enhance watersheds;
- o improve levees and foundations; and
- o improve treatment programs.

Normally the quality of drinking water in EBMUD's jurisdiction is well above acceptable health and aesthetic standards. However, in drought years the quality of EBMUD water has suffered due to the emergency inclusion of Delta water into drinking water supplies. With the improvements mentioned above EBMUD expects to be able to meet projected future demand at least into the 2020s.

Gas & Electricity. Pacific Gas & Electric (PG&E) does not envision any problems with capacity in the Richmond area. Expansion plans are on an as-needed basis and require the user to fund extensions of the service. The only problem which sometimes occurs is when a third party will not grant a Right-of-Way for extending service. Future planning is important for acquiring service to new areas.

PG&E indicates that service and capacity are not a problem in the foreseeable future. The agency does require extensive lead time in planning for redevelopment in order to extend pipes and/or upgrade existing lines.

Telecommunications Facilities

Telephone. Pacific Bell Corporation provides local telephone service to the Richmond area. In the case of new development in the area, telephone wires are laid concurrently with Pacific Gas & Electric lines. The pace of growth in Richmond, combined with freeway construction, has challenged Pacific Bell's ability to provide uninterrupted service to Richmond. Engineers with the telephone company, however, anticipate that service provision will continue to meet any new demands generated.

Telecommunications. Two cable television companies operate in Richmond under contract: Bay Cablevision and Western Audio-Video. Bay Cablevision provides cable television service to all Richmond subscribers living outside of the Marina Bay area. Western Audio-Video provides service to Marina Bay. Both companies pay the City of Richmond five percent of their gross revenues for their contracts. In 1989 Bay Cablevision had approximately 15,000 subscribers, generating roughly \$175,000 for the City.

Under the management of a division of the City Manager's Office, the City began in 1989 to operate its own cable television channels. Five channels exist:

- o one City municipal channel (Channel 49) that broadcasts City Council meetings, an electronic bulletin board, and regional programming of interest to residents of western Contra Costa County;
- o two channels at Contra Costa College to be used for educational programming;
- o a School District channel at Harry Ells Middle School; and
- o one channel at the Emergency Preparedness Center to be used to train fire and police personnel.

All of the channels will receive transmissions from the Federal Emergency Management Agency (FEMA) for public safety information in the event of an emergency.

Local Government Facilities

In addition to the City of Richmond police and fire facilities; disaster preparedness facilities; and telecommunications facilities described earlier, the City has various additional facilities. The Richmond Memorial Civic Center, located between MacDonald and Barrett Avenues and 25th to 27th Streets, consists of the City Hall building at 2600 Barrett Avenue, the Hall of Justice building, the Richmond Public Library, and the Richmond Memorial Convention Center (formerly known as the Memorial Auditorium). Completed in 1949-51, the Civic Center complex was described by Architectural Forum magazine as "a milestone in U.S. civic design."

Other city facilities in 1992 included the Community Services Center at 330 25th Street and MacDonald Avenue; Public Works Department Division of Engineering at 2566 MacDonald Avenue; the Public Works Operations and Maintenance Division at 1230 Bissell Avenue; and the Municipal Waste Water Treatment Plant at 601 Canal Boulevard.

HUMAN SERVICES FACILITIES

Public School Facilities

The Richmond Unified School District (RUSD) provides public school services for the cities of Richmond, El Cerrito, Hercules, Pinole, and San Pablo, and unincorporated areas that include El Sobrante, Kensington, North Richmond, and Tara Hills. In 1992 RUSD served a population of approximately 200,000 persons over an area of 110 square miles.

The District had a 1991-92 enrollment of 31,271 students, and a total of 2,068 employees in 1991-92, of whom 1,389 were certificated full-time employees and 679 were classified full-time equivalent employees.

In 1992 RUSD had 38 elementary schools; 1 middle school, 4 junior high schools; 5 senior high schools; 1 continuation high school; 1 career development center; 1 post secondary adult education school; and several children's centers.

RUSD completed a Facilities Master Plan in 1989. The District's 1991-92 capacity was 32,561 pupils, which was greater than the 1991-92 enrollment of 31,271. Future capacity of the Elementary, Middle and Junior High, and Senior High facilities was projected to exceed enrollment in each category for the 1991-92 to 1996-97 projection period.

The 1991-1992 District Budget (including projects) was approximately \$118 million.

RUSD school facilities located within Richmond (see map, Figure E-9 at the end of Section E) included:

- o 16 Elementary Schools:
Coronado; Ford; Grant; King; Lincoln; Mira Vista; Murphy; Nystrom; Peres; Sheldon; Stege; Valley View; Verde; Vista Hills; Washington; and Wilson;
- o 1 Middle School:
Adams;

- o 3 Senior High Schools:
De Anza, Kennedy, and Richmond High;
- o 1 Continuation High School:
Gompers;
- o 1 Special Education School: Harmon/Knolls;
- o the Staff Development Center: Vista Hills (formerly an elementary school);
- o the Career Development Center;
- o the Richmond Adult School, at 1250 23rd Street; and
- o the District Administrative Offices at 1108 Bissell Avenue.

Child Care

"Child care" refers to the provision of facilities and services for the care of children aged 0 to 14 years in a home or facility. The need for affordable child care services, and the existing lack thereof, has become an urgent and high priority issue because of the growing number of working women, single parents, and pregnancies among teenagers. In many cases the availability of child care may actually determine whether or not a woman can join the labor force, accept a job offer, pursue her education or job training, and thereby become capable of financially supporting her family.

Child care services can be broken down into the following subheadings: child care centers; family day care homes; and parenting.

Child care centers are government-provided service centers, non-profits, or businesses operating in an institutional setting. Examples include neighborhood preschool and afterschool programs, worksite centers, parent cooperative centers, and Headstart. Family day care homes are private homes where providers care for other people's children. Parenting or parent education is defined as the process of acquiring knowledge to be a more effective parent. Additionally, infant care is defined as those non-medical services provided to children between the ages of 0 to 2 by someone other than the parent for all or part of the day.

Data on available child care facilities in Richmond and the need for facilities was provided in 1992 by the Contra Costa Child Care Council. In 1992 there were 37 child care centers in Richmond serving 1743 children, and 192 Family Day Care homes serving 1572 children, for a total of 3315 slots. 53% of the available care was center-based; and 47% was in the Family Day Care home settings.

The average ages served was 2.7 years to 7.3 years, with a range of 3 months to 12 years. The average child care center operated 11 hours a day, 12 months a year.

70% of the child care centers offered nutritional programs. 41% accepted children with special needs.

The average cost of child care in Richmond was \$80 a week for center-based care. 49% of the center-based slots were at least partially subsidized.

The 3315 available child care or Family Day Care slots represented about 60% of the total estimated need for slots, which was 5480. When comparing the need for child care with existing slots, the need for infant and school age care far exceeded the supply. For example, 1303 infant slots were estimated as needed; and approximately 439 existed. Likewise, 2729 school age slots were estimated to be needed, and approximately 564 were available. The Contra Costa Child Care Council estimated that 25% of Family Day Care home slots were filled by infants and 15% were filled by school age children. Even then, a dramatic shortage of care for these two age groups existed.

Child care services are presently provided by a wide range of public and private entities. A few centers are supported entirely by public funds; others obtain some public funds to subsidize rates; and others are totally dependent on fees. In past years the City of Richmond, through various Federal and State grants, has contributed financial and staff support to several child care centers, particularly in the City's lower-income areas.

The cost, availability, and quality of child care are parents' primary concerns. According to a City of Richmond survey conducted in 1989 parents pay an average of \$280.00 per month for child care services. The survey also indicated the lack of availability of child care, particularly for infants and latch-key children. Private child care providers often accept only 3-5 year old children because they are easier to care for than infants and have fewer transportation requirements than school age children.

The quality of Richmond's services was not determined in the survey though the following issues were identified as having an important bearing on child care service quality: parental involvement, adequate training for providers, and more involvement from parents' employers and from childrens' schools.

The Contra Costa Child Care Council, a nonprofit organization, maintains a West County office located at 3727 Barrett Avenue. The Council acts as an information and referral center, providing information on all aspects of child care.

Medical Facilities

There are three hospitals within or next to Richmond:

- o Kaiser Hospital at Cutting and Marina Way;
- o East Bay Hospital at Gaynor and 23rd Street; and
- o Brookside Hospital on Vale Road in San Pablo.

Other nearby facilities include Doctor's Hospital in Pinole, and several convalescent hospitals and nursing homes within Richmond.

In addition to the hospitals a number of health services facilities are operated in Richmond, either by Contra Costa County or by various non-profit organizations. These are described later in this Section under the heading "Other Human Services Facilities and Resources."

Handicapped Facilities and Services

Job services for Deaf and Hearing Impaired persons are provided by the State Employment Development Department at their Richmond Service Center in central Richmond at 3443 22nd Street.

The City of Richmond operates the Disabled People's Recreation Center at 19th and Barrett Avenues which offers traditional and non-traditional recreation experiences and activities for Richmond's orthopedically, emotionally, or learning disabled residents.

The National Institute of Art and Disabilities is located at 551 23rd Street at Barrett Avenue. A non-profit institute founded in 1984, it provides art instruction for mentally disabled persons and exhibitions of student works in its gallery.

Senior Citizen Services

The County's Area Agency on Aging has a Senior Information and Referral (SIR) Office at 1305 Macdonald Avenue. This office has information available on all services offered to seniors in the Richmond area including:

- o Resources for people with Alzheimer's disease, sensory losses or other health concerns
- o Senior discounts
- o Employment opportunities
- o Housing and home maintenance assistance
- o Residential care facilities and home health care
- o Legal services

The SIR office also houses the RSVP (Retired Senior Volunteers Program) and HICAP (Health Insurance Counseling and Advocacy

Program). HICAP deals with Medicare supplement programs and consumer fraud advocacy for seniors.

According to Senior Information and Referral (SIR), the areas of greatest need for seniors are transportation, housing, and home care. Paratransit services do not serve areas outside of the Richmond City limits. Therefore, SIR tries to organize volunteer drivers to assist seniors who must go outside of Richmond. More affordable, physically accessible housing is needed for Richmond's seniors as is care within the home to prepare meals, provide housecleaning, and assistance in bathing and dressing.

Jobs for Seniors, a non-profit service located at 428 Wilson Avenue, serves as a liaison between those seniors (aged 55 years and older) seeking jobs and those needing services such as remodeling, home repairs, transportation, etc.

The City of Richmond operates two Senior Centers: the Senior Citizens Center at 2525 Macdonald Avenue and the Annex Senior Center at 5801 Huntington Avenue.

Family Services

The Contra Costa County Social Services Department is the major public agency provider of family and social services in the Richmond area. County Social Services has two service centers in Richmond: 1305 Macdonald Avenue providing County welfare program services (AFDC, general assistance, food stamps, Medi-Cal, and SSI benefits); and 3431 Macdonald Avenue, providing Child Abuse or Child Neglect services, Foster Home licensing, and Foster Home placement.

County mental health services are also provided in Richmond for Richmond and West County clients. The facility at 1025 Macdonald Avenue provides administration; consultation; information; and geriatric services. The facility at 256 24th Street provides psychiatric emergency and partial hospitalization services. The facility at 232 Broadway provides an Adult outpatient clinic; case management services; and Children and Adolescent services. The facility at 39th and Bissell Avenue provides a second Adult outpatient clinic.

County public health services are provided at the facility located at 39th Street and Bissell Avenue. Services include: child health screening; public health nursing and visiting nurse services; family planning services; immunizations; venereal disease clinic; and vital registration (birth and death certificates).

The County's WIC (Women, Infants, and Children) program at 39th and Bissell Avenue provides food vouchers, nutrition education and diet evaluation for low income women who are pregnant or mothers of infants.

The Basic Adult Care program at the County's Richmond Health Center (38th and Bissell) serves low-income adults who don't qualify for Medi-Cal.

The Martin Luther King Jr. Family Health Center at 101 Broadway, a nonprofit agency receiving City of Richmond federal block grant funding assistance, provides health services at sliding scale fees.

The City of Richmond does not have any family service facilities per se. The City's community centers provide facilities for some limited County and other agency services such as the Children's Health Clinic, Public Health Nurse, health screening, health insurance counselor and Social Security representative.

Some other family service facilities in Richmond are provided by non-profit agencies. These include:

- o Familias Unidas: Non-profit West Contra Costa County mental health center.
- o Richmond Rescue Mission, 200 Macdonald Avenue: Emergency Subsistence Program and Family Services including: distribution of food boxes, clothing, furniture; temporary lodging; transitional housing for women; meals (450 average a day); and a Rehabilitation Program including counseling services, disciple training, on the job training, and Bible courses and classes.
- o Rubicon Programs, Inc., 2500 Bissell Avenue: Services for mentally and developmentally disabled adults, including: vocational counseling and rehabilitation; "survival skills" training; low-cost housing; boarding care; and restaurant and catering combined with job training.
- o Volunteers of America Family Support Center, 173 22nd Street. Services include: Souper Center, providing meals for homeless persons; family budget management assistance; nutrition classes; consumer education; employment referral and job development; counseling and goal-setting guidance; information and referral to other social services; shared housing assistance; tenants rights; and housing assistance.

Transportation Services

The City of Richmond provides a subsidized transportation service to senior and transportation-handicapped residents of the City and adjacent unincorporated areas to relieve them of some of the high costs of public transportation. The Paratransit Program sells taxi vouchers to its clients at a discount price, depending on the client's income. The Program also has four vehicles they use to provide transportation services directly. The service is designed

to be a supplement to regular public transit and is not intended to serve as a primary source of transportation.

Some area schools and community centers (such as the Martin Luther King, Jr. Center) have their own vans and busses which are used to transport their clients who have mobility problems and are unable to use other forms of public transportation.

Employment Services

The two major employment service providers in the Richmond and West County area are (1) the City of Richmond's Private Industry Council (PIC) and (2) the local office of the State Employment Development Department (EDD). Both agencies maintain listings of thousands of persons available for work in all occupational areas. (The employment needs of Richmond residents were analyzed in detail in Section J [Survey of the Local Economy] of the background report prepared prior to the drafting of the updated General Plan.)

The Richmond PIC Program is a federally funded program under the Job Training and Partnership Act (JTPA). Richmond PIC has information on wage rates, extent of unionization, and other information regarding specific industries and job classifications. PIC provides a full complement of employment services to employers and to the local labor force. PIC services include employee recruitment, screening and referral; customized training; job development; counseling and placement services.

The State EDD provides a full range of employment services through its Richmond office including job referral; a job information center; counseling; casual labor services; veterans' services; and job agent (intensive job search) service.

The City and State employment services described above are supplemented by several non-profit agencies, which include:

- o BOOST, located at 333 11th Street, is a privately funded non-profit corporation to develop new job training programs and to assist high school students and adults to enroll in courses offered at the Career Development Center on the Richmond High School campus.
- o Contra Costa Regional Occupational (ROP) Program: Offers job training for people 16 and over. Operated by the County Office of Education, ROP provides specialized occupational training as well as training to develop marketable skills, abilities, attitudes and work habits.
- o County Veterans Resource Center at 100 37th Street is a County service linking veterans with jobs and services.

- o Rubicon Vocational Services, operated by Rubicon Programs Inc., 2500 Bissell Avenue: Operates a vocational counseling and rehabilitation program for low-income mentally and developmentally disabled adults.

Housing Services

See Section D, Survey of Population and Housing, and the implementation section of the Housing Element (Volume I of the Richmond General Plan), for a discussion of programs and services in Richmond related to housing, rehabilitation, and housing for the homeless.

Legal Services

Contra Costa Legal Services Foundation, located at 1017 Macdonald Avenue, provides free or low cost legal assistance for low-income residents.

The County Public Defender's Office provides legal defense for those charged with a criminal offense who cannot afford a private attorney.

Other Human Services Facilities and Resources

Human services are also provided by the following non-profit organizations:

- o Neighborhood House of North Richmond. Offers a range of programs including youth, anti-drug, and senior citizen programs.
- o American Red Cross. Offers health service classes and community service ranging from programs for the blind and the elderly to disaster relief.
- o United Council of Spanish Speaking Organizations, 252 Marina Way. Offers referral, advice on services, and support to Hispanics.
- o Christian Believers. A social service organization that offers information about housing, job training, day care, drug abuse, and other social and individual needs.

ARTS & CULTURAL FACILITIES

Richmond has a number of existing facilities for the arts and culture. Some are City owned and operated; others are public non-profit or private.

The City of Richmond owns and operates the following cultural facilities:

- o Richmond Memorial Convention Center. Located in the Civic Center complex, the Convention Center auditorium is a fully equipped performance and convention center with a capacity of 3,800. Several smaller rooms are available for public meetings.
- o Richmond Public Library. Richmond's Main Public Library is located at the Civic Center Plaza. Two branches include the Bayview Branch on Hartnett Avenue and the Westside Branch on Washington Avenue. The public library has served Richmond's residents since 1907. Over 275,000 books are in the library's collection, as well as magazines, newspapers, pamphlets, government documents, prints, records, videotapes, and audiotapes. Registered borrowers number over 35,000 and are served by a bookmobile, adult reading and tutoring services, and activities for library users of all ages.
- o Richmond Art Center. The nationally recognized Art Center, located in the Civic Center, provides a year-round series of exhibitions as well as art education and outreach programs serving over 50,000 people each year on a membership/fee basis. Studio facilities, potter's wheels, kilns, looms, jewelry making tools, and metal smithing and soldering tools make up the resources available at the Art Center.
- o Richmond Museum, at 400 Nevin Avenue. The Museum is largely supported by the City, which contributes about two-thirds of its annual budget. The three part-time staff persons are paid by the City, which also owns the building. The private non-profit Richmond Museum Association owns the collection and raises funds for the rest of the budget. The Museum, housed in a 1910 Carnegie Library building, has as its goal to preserve "the human aspect of Richmond's history." It has a collection of over 20,000 objects, reflecting the various historical periods in the city's history.

Other prominent private or non-profit cultural facilities in Richmond include:

- o East Bay Center for the Performing Arts, 339 11th Street in the Richmond City Center area. The East Bay Center is a non-profit center providing local and East Bay residents with instruction in the performing arts. It has a faculty of

approximately 35 professional artists providing private and ensemble instruction to students who include children, teenagers and young adults, and adults. The curriculum includes music fundamentals; music instruction in jazz, folk music, vocal workshops, and classical music; performance preparation; theater arts; dance instruction and performance.

- o National Institute of Art and Disabilities, at 551 23rd Street at Barrett Avenue. A non-profit institute founded in 1984, providing art instruction for mentally disabled persons and exhibitions of student works in its gallery.
- o Masquers Playhouse, 105 Park Place, in Point Richmond neighborhood. A 35-year old theater company, performing plays and also offering a year-round Youth Acting class for students in grades 4-8. Has a 99-seat proscenium stage theater.
- o West Contra Costa Community Music Association.
- o Richmond Ballet, 25th Street & Barrett Avenue. Provides professional training in classical ballet.

Several annual community-wide festivals in Richmond include Cinco de Mayo, held in the Civic Center in the spring; Juneteenth, held in Nicholl Park every summer; Festival By the Bay held in Marina Bay every fall; and Snow Ball, held every winter in the Convention Center. Richmond sponsors Black History Month celebrations every year in February.

An outdoor Farmers Market operates in the Civic Center every Friday from May through mid-November, and attracts a large number of residents from a broad range of ethnic and cultural groups.

The City of Richmond has an Arts and Culture Commission, established by ordinance in 1987. Its purpose is:

- (1) To promote and encourage the development of and interest in the fine and performing arts; and
- (2) to act in an advisory capacity to the City concerning its artistic and cultural development and the preservation of Richmond's heritage.

The Arts Commission's first major project was to commission two major outdoor murals in 1989, one extending 432 feet along the Barrett Avenue underpass below the BART (Bay Area Rapid Transit) tracks, and the second at the Macdonald Avenue underpass below Interstate 80. The murals were funded from the City's Beautification Fund and the Public Works Department budget. The Commission through its Public Art Subcommittee intends to carry out an ongoing program of public artworks. In 1989 the Commission published a directory of Richmond artists and arts organizations.

REFERENCES

California Department of Education, California Assessment Program - 1987-88 Four Year School and District Summary, undated.

City of El Cerrito, General Plan, February 1975.

City of Richmond, Concise General Plan Document, September 1987.

City of Richmond, General Plan, Land Use Plan (map), revised July 1987.

City of Richmond, Multi-Hazard Functional Plan, August 1987.

City of Richmond, Open Space and Conservation Element of the Richmond General Plan, June 1973.

City of San Pablo, General Plan, 1980.

East Bay Regional Park District, Brooks Island Regional Shoreline: Final Land Use-Development Plan & Environmental Impact Report, November 1984.

East Bay Regional Park District, Master Plan, May 1988.

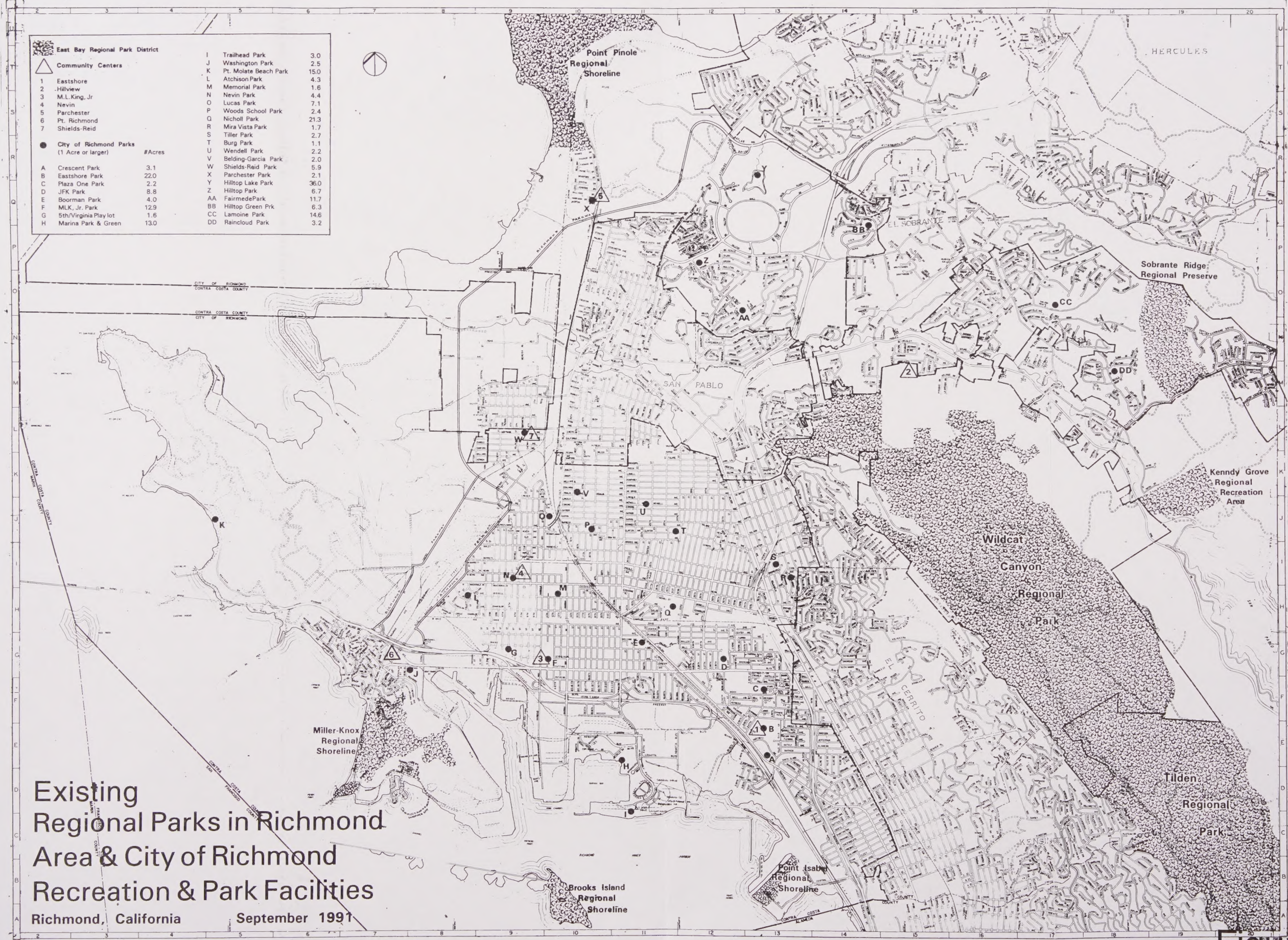
Hall, Goodhue, Haisley, and Barker, Shoreline Conservation and Development Strategy, Technical Memorandum Number 2: Planning Analysis, July 1986.

Hall, Goodhue, Haisley, and Barker, Draft Master Plan: Naval Supply Center Oakland (including Pt. Molate), August 1987.

Richmond, California Recreation and Parks Commission, Update of Goals and Standards for City of Richmond Parks and Recreation Facilities, report dated October 1991.

U.S. Department of Justice, Federal Bureau of Investigation, Crime in the United States: Uniform Crime Reports, July 1987.

West County Times, Our Town: A Guide to Our Communities: Richmond, February 24, 1990.



East Bay Regional Park District		
Community Centers		
1	Eastshore	3.0
2	Hillview	2.5
3	M.L.King, Jr	15.0
4	Nevin	4.3
5	Parchester	1.6
6	Pt. Richmond	4.4
7	Shields-Reid	7.1
City of Richmond Parks (1 Acre or larger)		
A	Crescent Park	2.4
B	Eastshore Park	21.3
C	Plaza One Park	1.7
D	JFK Park	2.7
E	Boorman Park	1.1
F	MLK, Jr. Park	2.2
G	5th/Virginia Play lot	5.9
H	Marina Park & Green	2.1
I	Trailhead Park	36.0
J	Washington Park	6.7
K	Pt. Molate Beach Park	11.7
L	Atchison Park	6.3
M	Memorial Park	14.6
N	Nevin Park	3.2
O	Lucas Park	
P	Woods School Park	
Q	Nicholl Park	
R	Mira Vista Park	
S	Tiller Park	
T	Burg Park	
U	Wendell Park	
V	Belding-Garcia Park	
W	Shields-Reid Park	
X	Parchester Park	
Y	Hilltop Lake Park	
Z	Hilltop Park	
AA	FairmedePark	
BB	Hilltop Green Prk	
CC	Lamoine Park	
DD	Raincloud Park	

**Existing
Regional Parks in Richmond
Area & City of Richmond
Recreation & Park Facilities**
Richmond, California September 1991

Figure E - 1

TABLE 1	
Year	Population
1950	1,000,000
1960	1,200,000
1970	1,500,000
1980	1,800,000
1990	2,000,000
2000	2,200,000
2010	2,400,000
2020	2,600,000
2030	2,800,000
2040	3,000,000
2050	3,200,000
2060	3,400,000
2070	3,600,000
2080	3,800,000
2090	4,000,000
2100	4,200,000

Estimated population growth
 from 1950 to 2100
 based on current trends
 and assumptions.

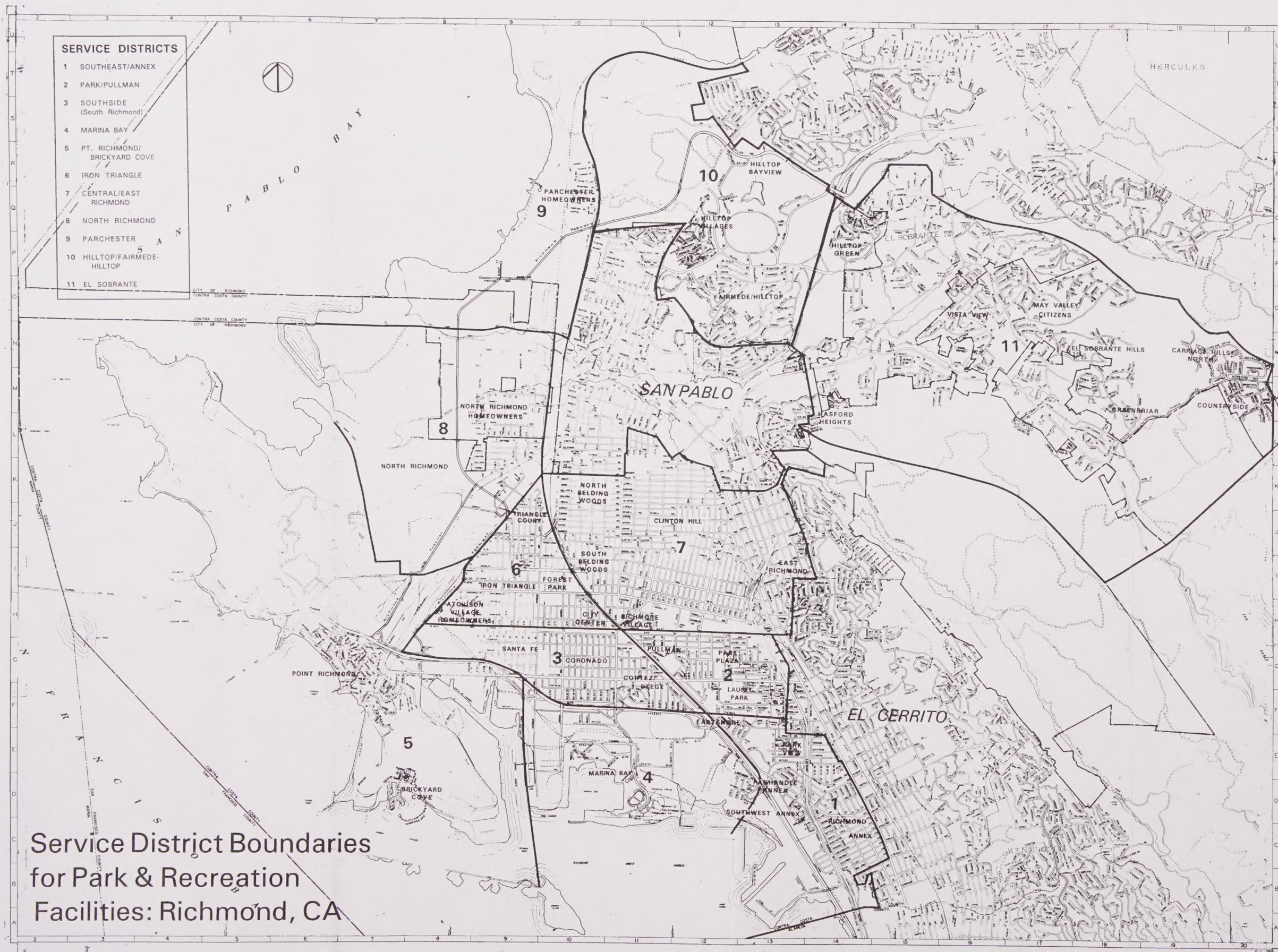
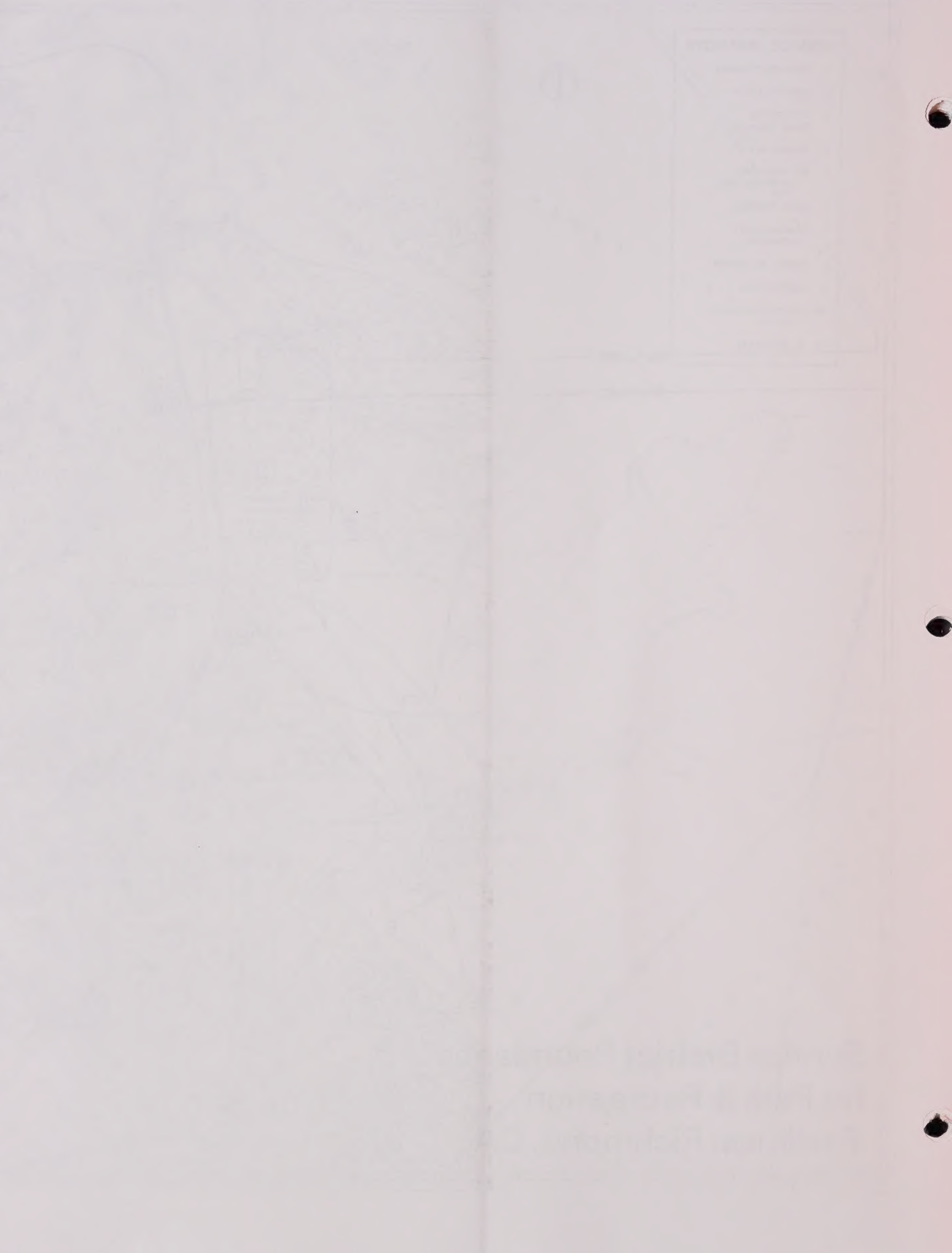


Figure E - 2



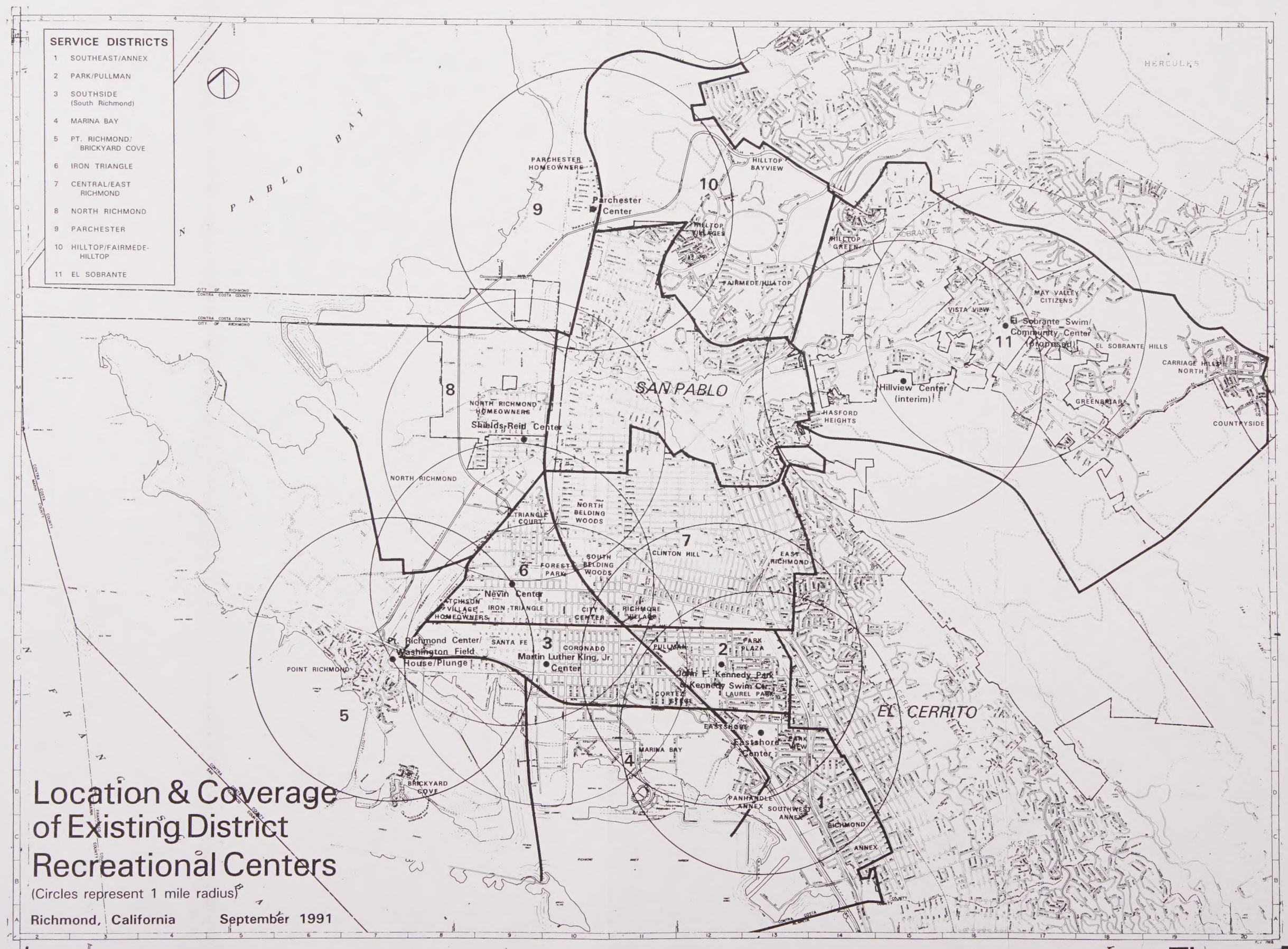


Figure E - 3

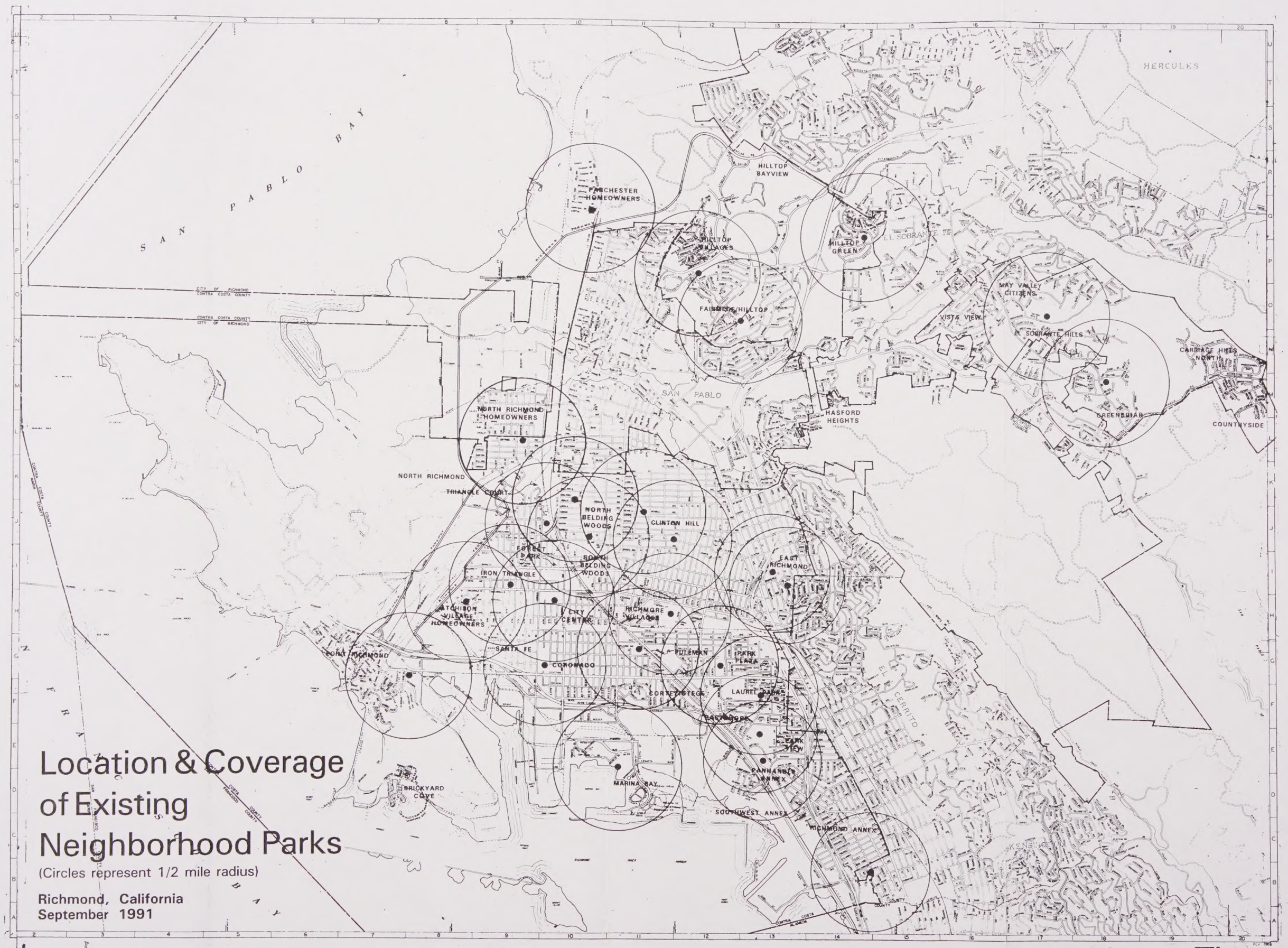


Figure E - 4

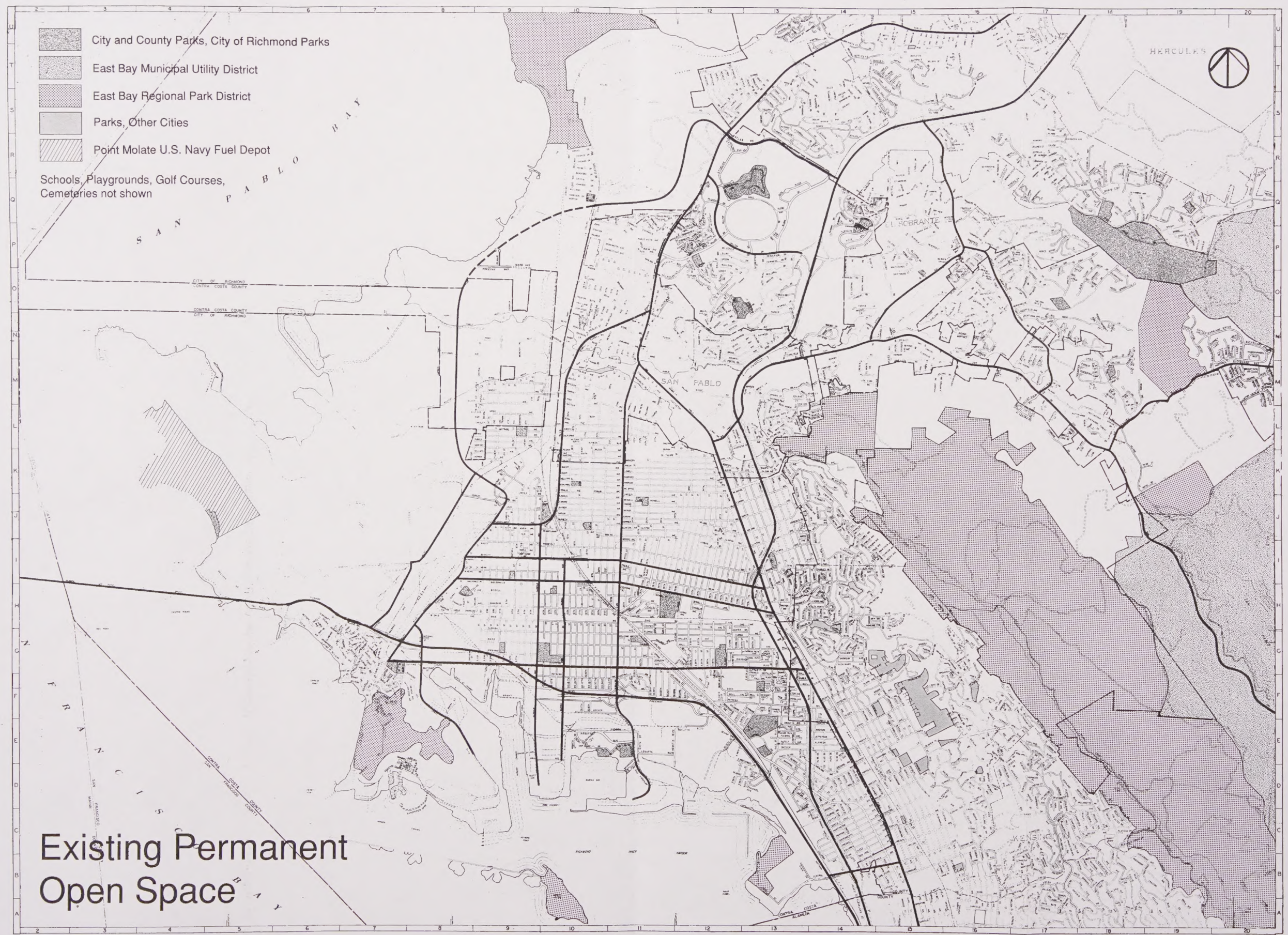
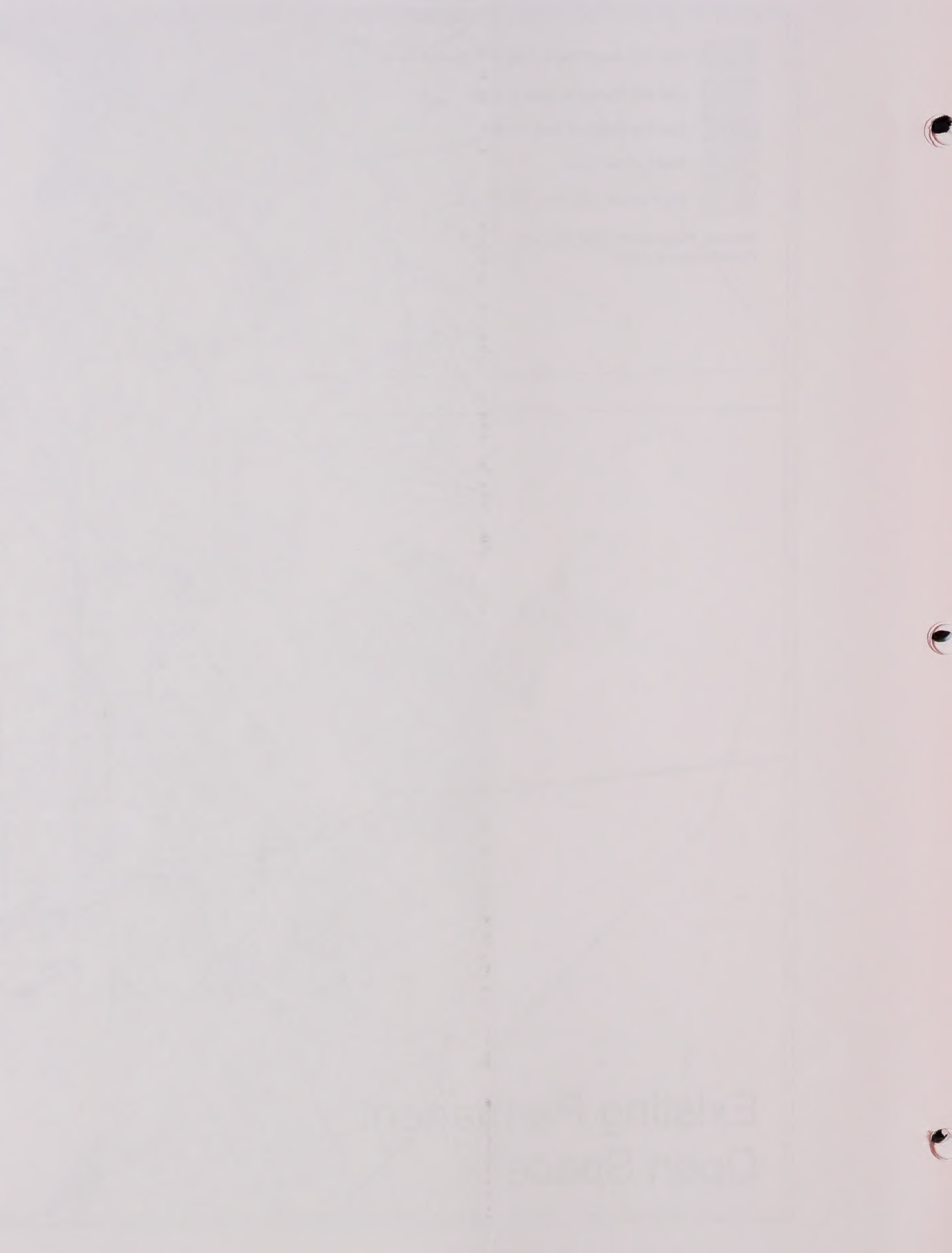


Figure E - 5



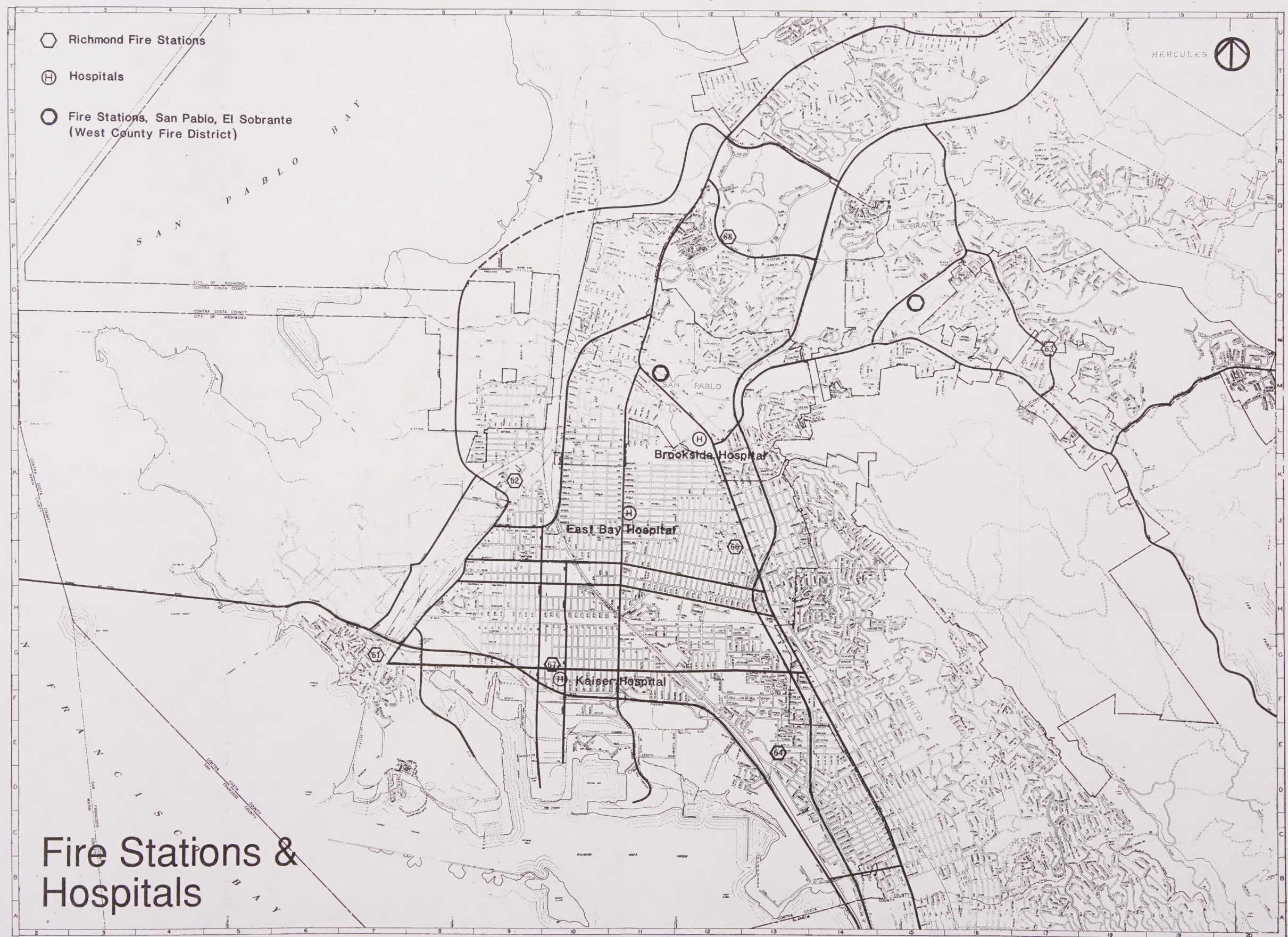
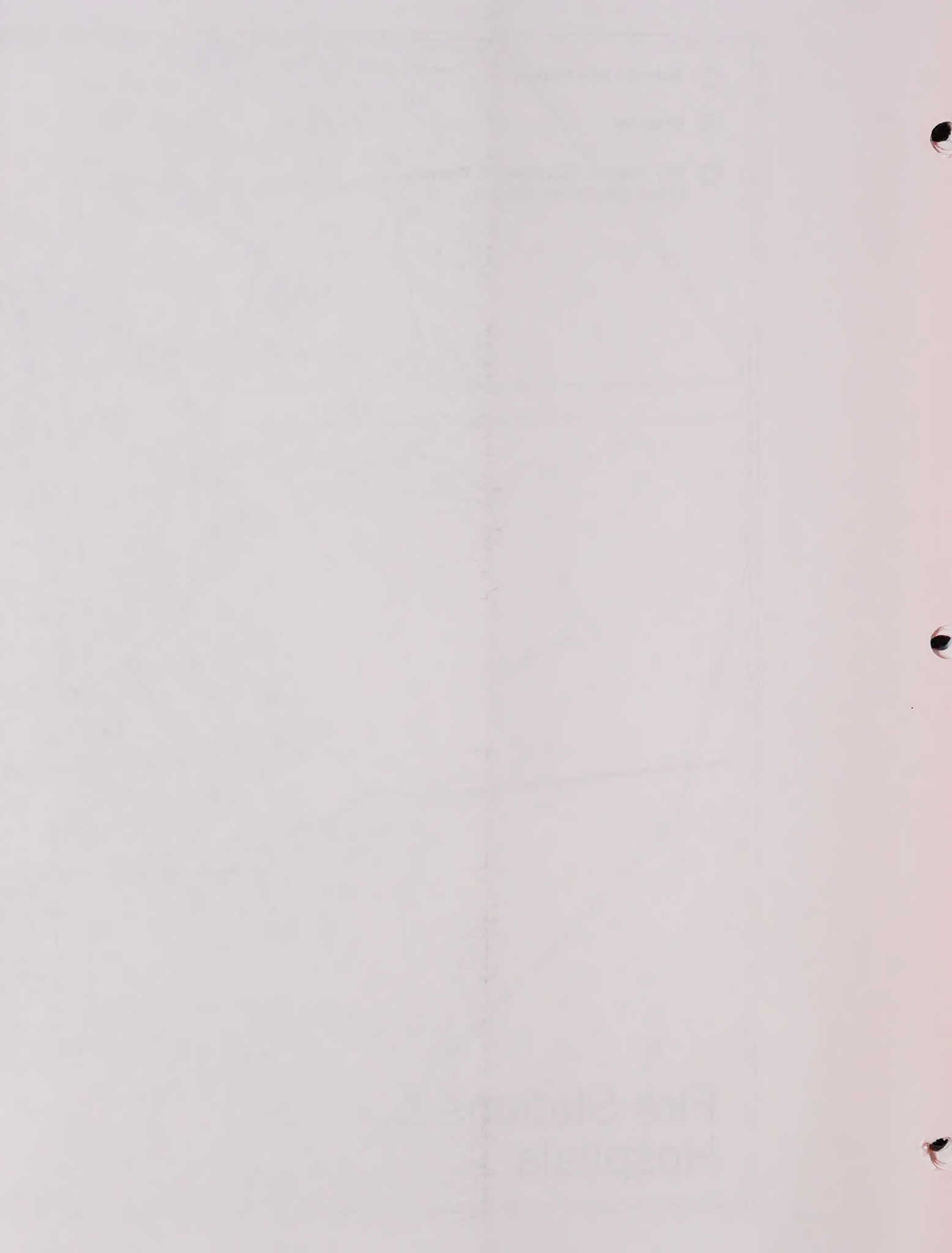
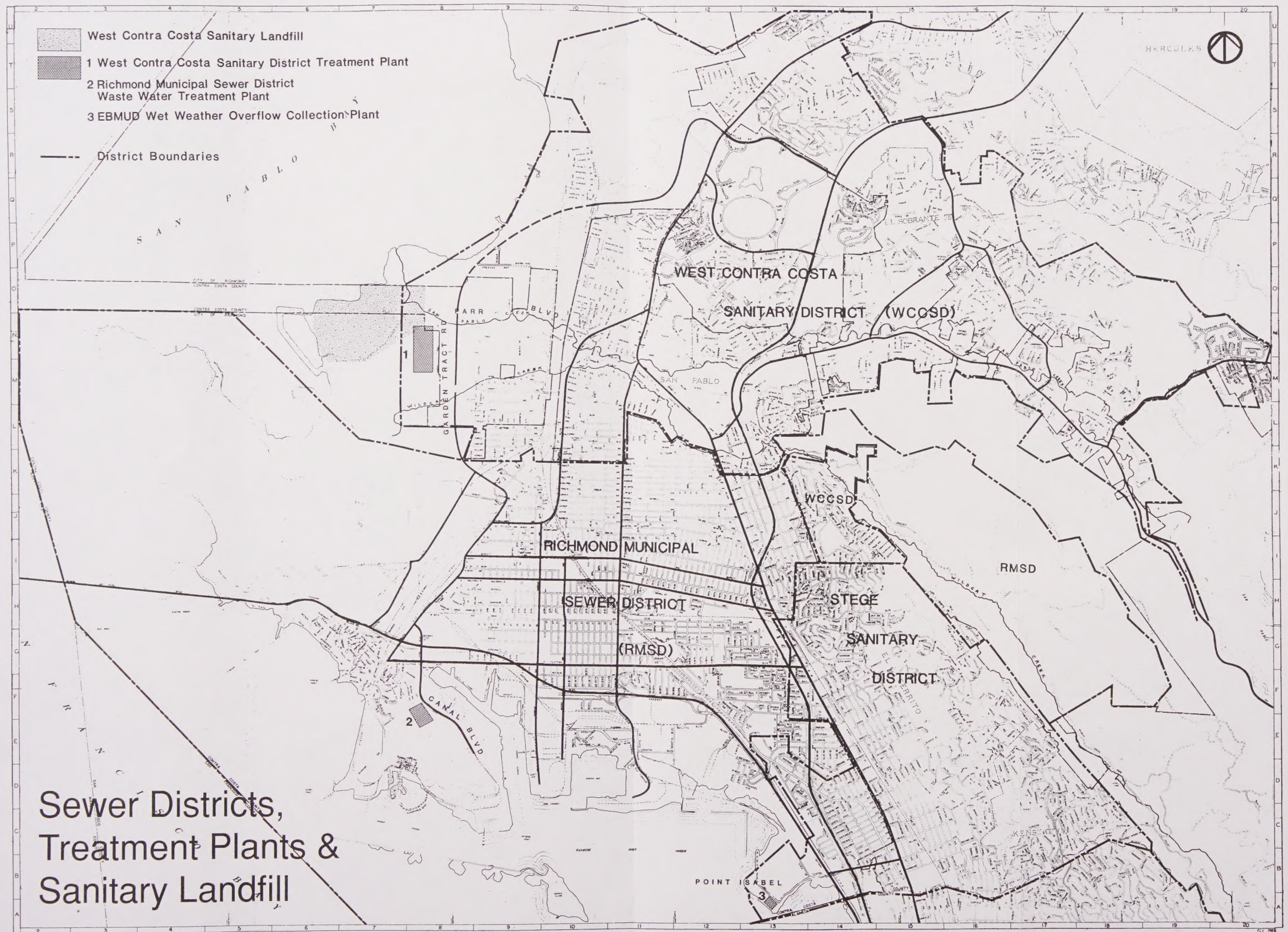


Figure E - 6





Sewer Districts,
Treatment Plants &
Sanitary Landfill

Figure E - 7

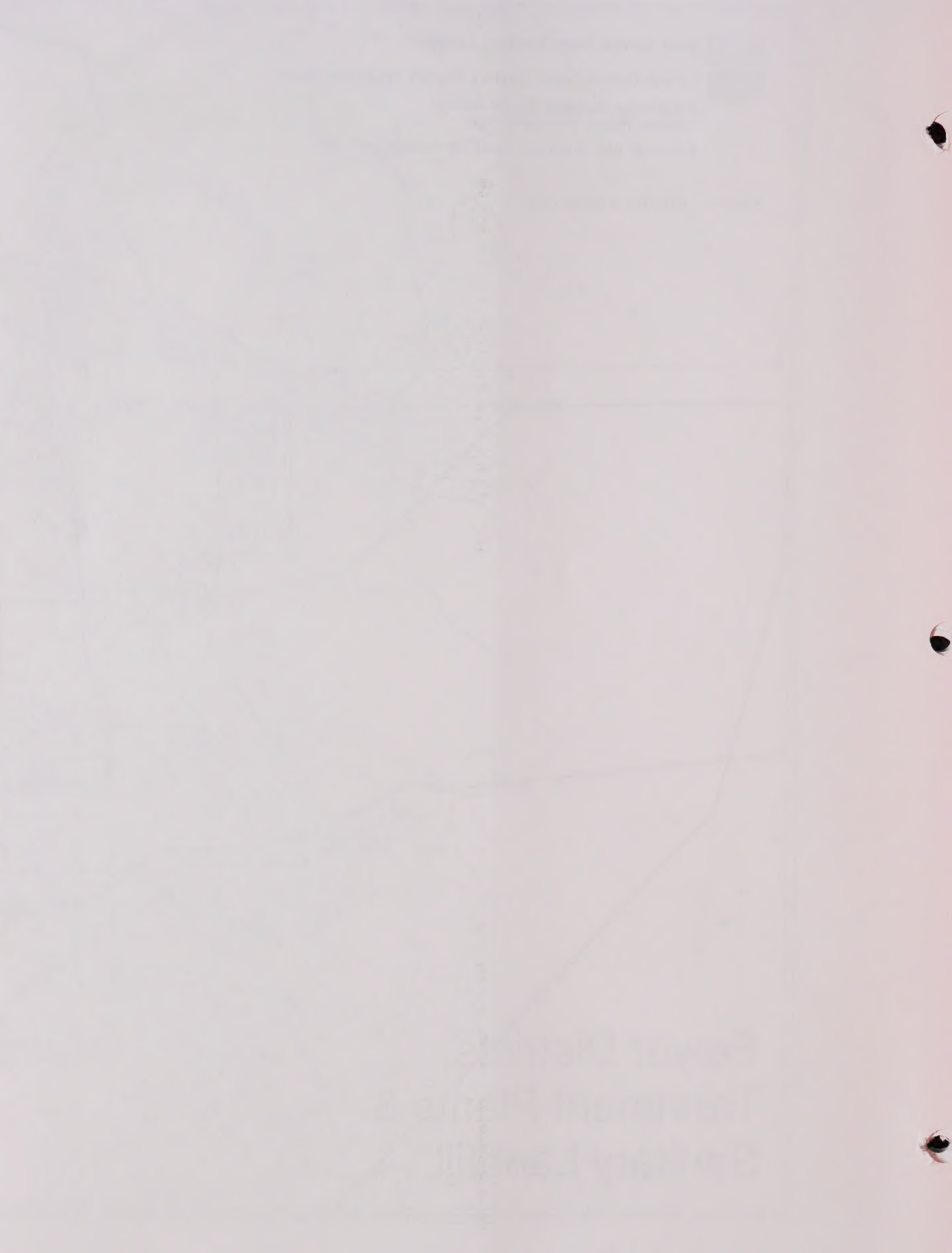
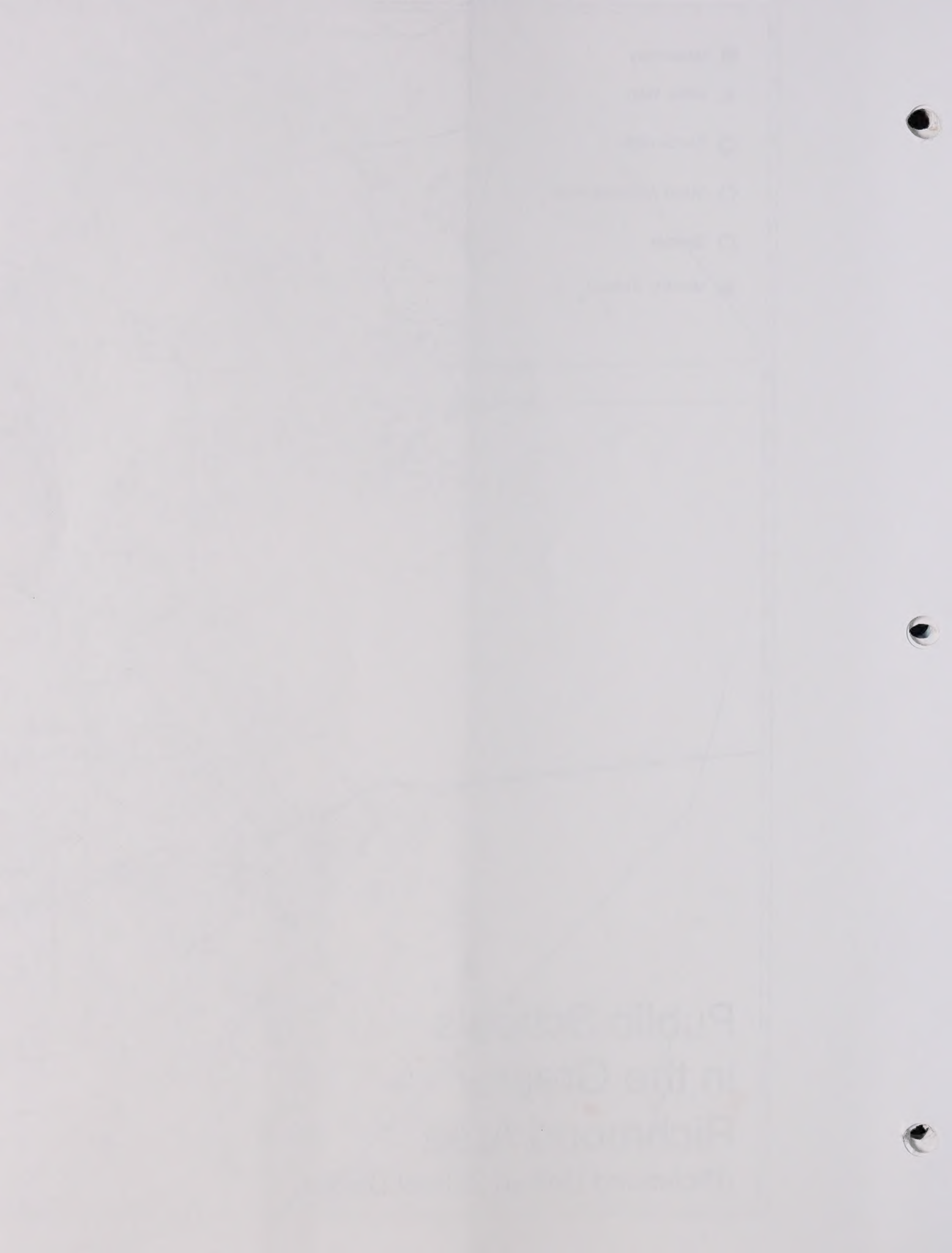




Figure E - 8



1. The first part of the document is a letter from the President of the United States to the Congress, dated January 1, 1861.

2. The second part is a report from the Secretary of the Interior, dated January 1, 1861, on the state of the public lands.

3. The third part is a report from the Secretary of the Treasury, dated January 1, 1861, on the state of the public debt.

4. The fourth part is a report from the Secretary of the War, dated January 1, 1861, on the state of the military forces.

5. The fifth part is a report from the Secretary of the Navy, dated January 1, 1861, on the state of the naval forces.

6. The sixth part is a report from the Secretary of the State, dated January 1, 1861, on the state of the foreign relations.

7. The seventh part is a report from the Secretary of the Education, dated January 1, 1861, on the state of the public schools.

8. The eighth part is a report from the Secretary of the Agriculture, dated January 1, 1861, on the state of the public lands.

9. The ninth part is a report from the Secretary of the Commerce, dated January 1, 1861, on the state of the public commerce.

10. The tenth part is a report from the Secretary of the Finance, dated January 1, 1861, on the state of the public finance.

SECTION F

SURVEY OF TRANSPORTATION AND CIRCULATION

This section summarizes the major elements of the transportation system in the Planning Area and the general relation between land use and circulation. Included are discussions on vehicular access, public transportation, railroad network, maritime facilities, non-motorized access, relation to land use, and level of service analysis.

TRAFFIC NETWORK

Major transportation routes in Richmond are shown on Circulation Plan 1 of 2.

Freeways

Two major interregional freeway access systems serve the Richmond Planning Area: The Eastshore Freeway (I-80) and the John T. Knox Freeway (I-580). I-80 is a major north/south freeway which traverses Richmond south from the Hilltop area to the northern Alameda County line. It provides a direct route to Sacramento, Oakland and San Francisco. Interstate 580 follows a north/south route on the eastern side of the City, turning westward toward the Richmond-San Rafael Bridge to U.S. 101 in Marin County. This facility provides primary regional access for the southern portions of the City.

Parkway

To complete the interregional network, the Richmond Parkway is proposed for completion by the year 1995. It will provide an interregional highway connection between I-80 at a new interchange north of Hilltop and the Richmond/San Rafael Bridge (see Circulation Plan 1 of 2). When completed, the Richmond Parkway will be a four-lane (future six-lane) divided roadway. It will extend along the northern City limits into the northwest shoreline area south of Parchester Village, eventually crossing Parr Boulevard. From Parr, the Parkway will extend southward to Castro Street with an extension of roadway through the Hensley Industrial District connecting to Garrard Boulevard. Through truck traffic will be directed south along Castro Street to the Knox Freeway and automobile traffic along Garrard Boulevard.

Major Thoroughfares

Major thoroughfares are intended to serve large volumes of traffic between communities and between different land use areas and facilities that are heavy traffic generators. They generally provide four traffic lanes. A list of major thoroughfares is contained in Addendum 1 to Section F.

Secondary Thoroughfares

Secondary thoroughfares connect major land use areas and major circulation system components such as freeways, major thoroughfares, and transit stations. Two or more traffic lanes are provided. A list of secondary thoroughfares is contained in Addendum 2 to Section F.

SCENIC ROUTES

A Scenic Route Element was adopted as part of the former Richmond General Plan in October 1975. Although a Scenic Route Element is no longer required by State Law, Richmond continues to view scenic routes as an important part of its General Plan.

Scenic Routes, Scenic Corridors and Scenic and Landscaped Freeways are listed in Addendum 3 to Section F and are shown diagrammatically on Circulation Plan 1 of 2.

Scenic Routes

Scenic routes include most of the major (including the Richmond Parkway) and some of the secondary thoroughfare mileage within the Planning Area. Although many of these routes do not afford traditional "scenic" vistas, they are important visual elements that should be developed and enhanced. Some serve as "gateways" to communities and jurisdictions within the Planning Area, making their appearance a significant contributor to residents' and visitors' feelings about the quality of the urban environment.

Scenic Corridors

This designation includes the following largely undeveloped areas, or developed areas where open space and major ridgelines dominate the scenic quality adjacent to and visible from designated scenic thoroughfares.

Scenic and Landscaped Freeways

The two freeways (I-80 and I-580) are classified as Scenic and Landscaped Freeways.

PUBLIC TRANSPORTATION NETWORK

The public transportation system includes AC Transit, WestCAT, Vallejo Transit, Contra Costa County Connection, BART Express Bus Service, the Bay Area Rapid Transit System (BART), AMTRAK, Greyhound Bus service, and paratransit.

AC Transit

AC Transit is the primary interregional bus system and serves the Planning Area with several lines. To assist local agencies in transportation planning the transit agency has published a pamphlet, Guide For Including Public Transit in Land Use Planning. In 1987, the agency started a major review of its entire system in an effort to identify ways to make it more efficient. In 1989 AC Transit published a draft AC Transit Short Range Transit Plan giving projections for Fiscal Years 1990-94 which are listed in Addendum 4 to Section F. As part of this review, the Agency identified potential locations for major transfer hubs, or transit centers, to be established to simplify transfers between lines. Of those identified, Contra Costa College is scheduled for completion in FY 1992-93. Hilltop Mall and Richmond BART Station are identified as future transit center improvements beyond the FY 1994 projection. In September 1990, AC Transit implemented its Comprehensive Service Plan for bus route restructuring.

The AC Transit District has proposed extending service to the developing areas within the south shoreline and expanding service to those areas receiving peak only service. Service will be increased to areas of high residential density and low automobile ownership. El Sobrante service will be streamlined into a two loop system increasing frequency.

Bay Area Rapid Transit System (BART)

BART serves the Planning Area from the station in Richmond, between Macdonald and Barrett Avenues east of Marina Way. The El Cerrito del Norte Station at Cutting Boulevard and San Pablo Avenue also provides area service. Another nearby station is El Cerrito Plaza. BART has long-range plans (beyond current five year program) to extend its rail service to the north. BART is currently in a reconnaissance phase to determine alternative alignments to be considered as part of an Environmental Impact Report. Three general alignments currently under consideration are:

1. Extending the Richmond line from the Richmond Station through the Hilltop area, connecting with the I-80 alignment in the vicinity of the Atlas Road/I-80 Interchange, with a station in proximity to Hilltop Mall.
2. Extending the Richmond line from the Richmond Station through the Hilltop area, connecting with the I-80 alignment in the vicinity of the Atlas Road/I-80 Interchange, with a station in proximity to the Atlas Road/I-80 Interchange.
3. Extending the Richmond line from the Richmond Station along the western portion of the developed area of

Richmond, San Pablo and Pinole - generally following existing rail road alignments.

The current analysis will consider various alignments and station sitings within these three major corridors. Any of the alignments must minimize impacts on communities which they pass through, and provide intra-regional service.

The alignment which passes through the Hilltop area with a station at the Hilltop Mall (see Circulation Plan 1 of 2) would provide the most optimum service for Richmond, and allow BART to act as a multi-functional transportation system in Western Contra Costa County. However, the facilities should be built underground in San Pablo to minimize the impact of this alignment on that City.

Amtrak

AMTRAK passenger service is available next to the Richmond BART station. The station is east of Marina Way between Macdonald and Barrett Avenues. AMTRAK currently provides two types of rail passenger service along the Southern Pacific line: 1) long distance interstate service via the Zephyr and the Coast Starlight; and 2) intrastate service between Sacramento and San Jose (called the Capitol Corridor Line) which was initiated in 1992. The Capitol Corridor service passes through Richmond, with a stop at the Richmond AMTRAK station which, as noted above, is sited in conjunction with the Richmond BART Station.

Greyhound Bus System

The Greyhound lines formerly served Richmond with a stop on 23rd Street south of Macdonald Avenue; the stop is now located in San Pablo in the El Portal Shopping Center.

Paratransit

The City Of Richmond provides subsidized van and taxi service to elderly and transportation disabled residents of Richmond and the adjacent unincorporated areas of the County. Anyone over 65 years of age or anyone certified as being unable to use public transit is eligible for service.

During Fiscal Year 1991-92, 99,000 passenger trips were provided to approximately 1,800 eligible residents.

Demand for service continues to increase each year as the population ages and as more opportunities open for disabled people to enter the mainstream of society. In 1988, Contra Costa County voters passed Measure 'C' - Transportation. A portion of the Measure 'C' funds will provide a substantial increase in funding for the Program and allow for expansion of services to help meet current and anticipated needs.

RAILROAD NETWORK

More so than most Bay Area cities, the railroads spurred Richmond's urbanization in the 1900's and helped the City's surge in growth in the 1940's. Santa Fe established Point Richmond and East Yard (near where Atchison Village now stands) as railroad towns to provide housing its workers and families. Although rail-use-related industry has declined during the past two decades, the railroads remain a major and influential landowner in the shoreline area.

Two major railroads, Atchison, Topeka and Santa Fe (Santa Fe) and Southern Pacific (SP) serve the Richmond area. They are supported by a switching carrier, Levin Richmond Terminal Railroad (Parr).

Railroad trackage and operations can be broken down as follows:

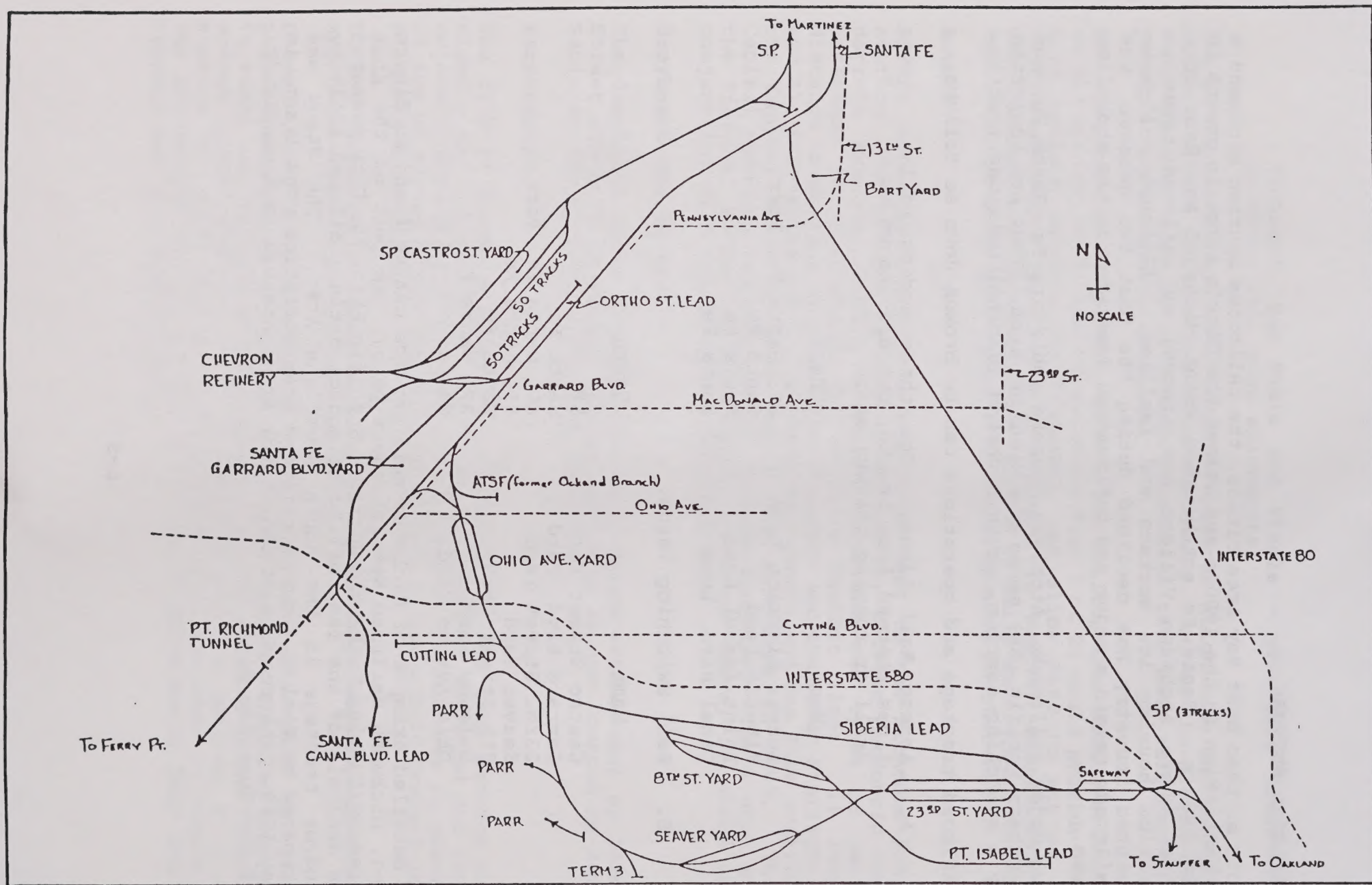
- A. Access Rail Lines. The three access rail lines (termed lead tracks, but also known as drill or running tracks) are;

<u>Name</u>	<u>Users</u>
Seaver District Lead	SP, Santa Fe, Parr
Siberia Lead	Santa Fe
Point Isabel Lead	Santa Fe
Canal Blvd. Lead	Santa Fe

- B. Rail Switching Yards.

<u>Name</u>	<u>Users</u>
Castro Street Yard	SP
Garrard Blvd. Yard	Santa Fe
23rd. Street Yard	SP, Santa Fe, Parr
Seaver Yard	SP, Santa Fe
8th Street Yard	Santa Fe
Safeway Yard	SP, Santa Fe
Ohio Avenue Yard	Santa Fe

A detailed example of Richmond rail service can be found in Figure F-1, Richmond Railroad Network (next page). As part of the Knox Freeway/Cutting Boulevard Corridor Specific Plan, the City prepared an analysis of the feasibility of consolidating railroad activity and/or trackage in the South Shoreline Area. The Study was prepared by Neal D. Owen, a railroad transportation consultant, in May 1989. The results of that Study are contained in Appendix 'D' of the Specific Plan.



Richmond Railroad Network

Figure F - 1

MARITIME FACILITIES

The Port of Richmond owns five terminals as identified in Figure F-2 which include Terminal No. 1 near Ferry Point; Terminal Nos. 2 and 3 on the east side of the Santa Fe Channel; Shipyard No. 3 which includes several facilities on the west side of the Channel at Potrero Point; and Terminal No. 4 at Point San Pablo. Besides the Port facilities, there are several private maritime facilities along the Santa Fe Channel and at various piers along the western shore of the shoreline area. Addendum 5 to Section F summarizes the basic characteristics and cargo types of the Port and private maritime facilities.

NON-MOTORIZED ACCESS

Trails and Pedestrian Walks

The East Bay Regional Park District (EBRPD) has proposed regional trails that will eventually provide for over 1000 miles of maintained trails encircling both San Pablo and San Francisco Bay. In the Richmond area these trails will connect an area from Point Isabel to Point Pinole. A trail from the North Richmond wetlands along Wildcat Creek to Wildcat Canyon will connect Richmond to the East Bay Skyline National Trail.

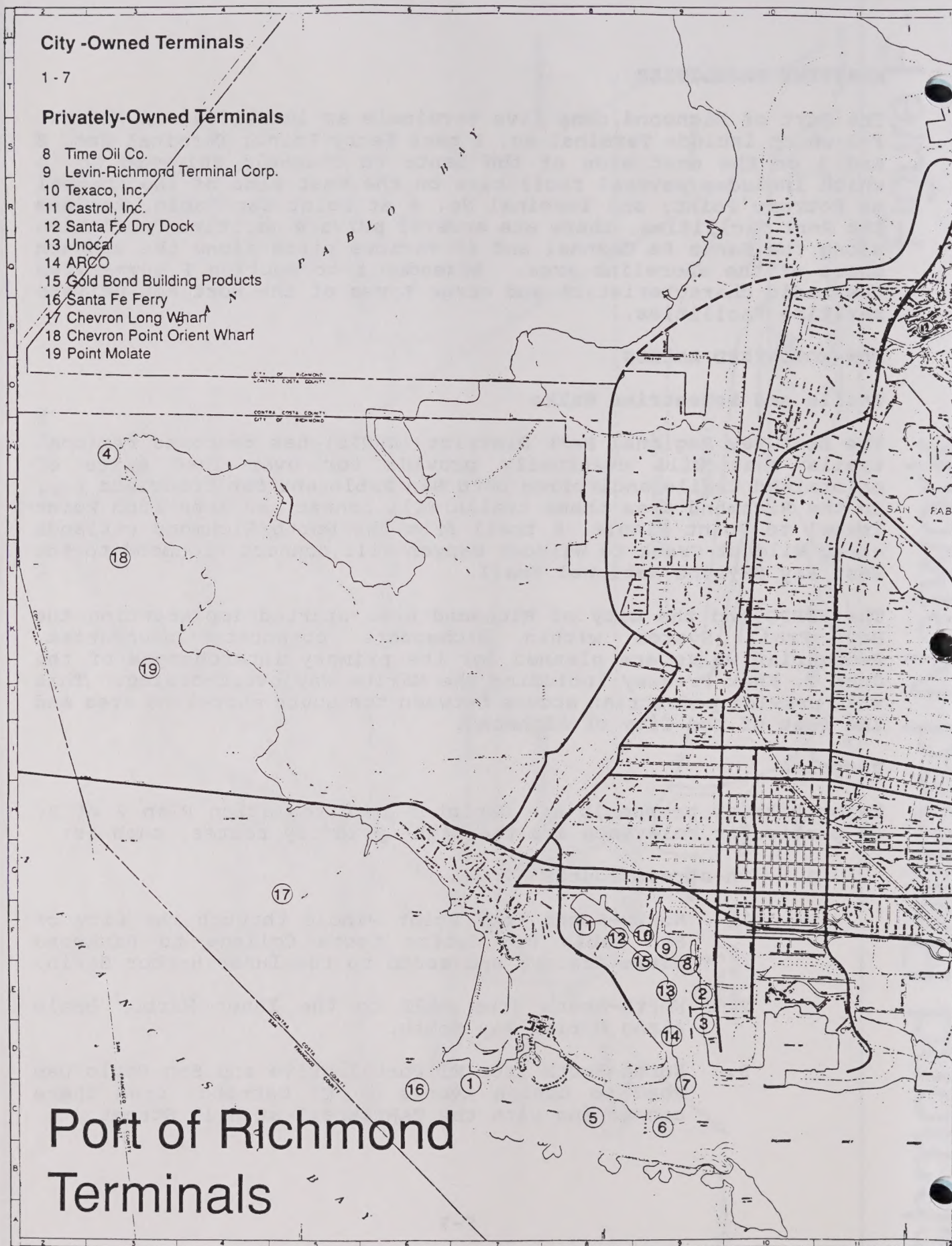
The EBRPD and the City of Richmond have started implementing the Bay Trail System within Richmond's corporate boundaries. Pedestrian walks are planned for the primary interchanges of the John T. Knox Freeway including the Marina Way overcrossing. This will provide pedestrian access between the south shoreline area and the rest of the City of Richmond.

Bicycles

Major bikeway proposals are depicted in Circulation Plan 2 of 2. Of particular relevance are the high- priority routes, such as:

A. On-street routes

1. North-South from Point Pinole through the City of San Pablo via Contra Costa College to Richmond Civic Center, and south to the Inner Harbor Basin.
2. North-South from BART to the Inner Harbor Basin along Marina Way South.
3. North-South from El Portal Drive and San Pablo Dam Road to Canlon Avenue in El Cerrito, from there connecting with the BART trail at Hill Street.



B. Separate rights-of-way

4. San Pablo Avenue to Garrard Boulevard using the abandoned Ohio Street railroad right-of-way.
5. Point Molate coastline between San Rafael Bridge toll plaza and Winehaven.
6. South coastline between Point Isabel and Inner Harbor Basin.

RELATION TO LAND USE

Overview

Richmond's residential areas are largely developed, but at a much lower density than was envisioned in 1964 when the buildout population of the Richmond Planning Area was projected at 280,000. The West Contra Costa Transportation Advisory Committee (WCCTAC) estimates the 1990 Richmond Planning Area population at 106,000 and projects 107,000 in the year 2000 and 109,000 in 2010. Although 5,000 housing units are projected to be added between 1990-2010, declining household size would result in a population gain of only three percent. The major source of additional travel is expected to be new jobs — an increase of 12,500 (29 percent) during the 20-year period. Projections prepared by the Association of Bay Area Governments (ABAG) show an increase in the ratio of jobs to employed residents from .90 in 1990 to 1.02 in 2005. While large volumes of in- and out-commuters will continue, the projected near balance between employed residents and jobs will keep total vehicle miles of travel lower than if the moderate jobs/housing imbalance estimated in 1990 were to persist.

Proposed Projects

Section D of the Background Report for the preparation of the General Plan (April 1992) contains an overview of proposed projects which have been identified at the time of the preparation of this document. They are referenced here to recognize the interdependence of the General Plan's Land Use and Circulation Elements. These developments, in part, have been an impetus for improvements to the City's circulation system.

Land Use Analyses

All major improvements to the City's circulation system will ultimately be included in the Richmond Capital Improvement Program (CIP) which is developed annually as part of the City's budget process. The CIP will identify general project parameters, estimated construction schedule, projected project costs, and anticipated funding sources. A project's inclusion in the City's CIP is a critical transition from identification as a

recommendation resulting from specific analyses to proposed inclusion in the City's capital budget and proposed implementation. Several land use related studies for different portions of the City have identified needed improvements for the local street network. These studies are discussed below.

1. In 1984, the El Sobrante Traffic Advisory Committee (an inter-jurisdictional committee) analyzed traffic needs in the El Sobrante Valley. The recommendations of that Committee are listed in Table 1 of Addendum 6 to Section F. Because of the inter-jurisdictional nature of the El Sobrante area, some of the identified road improvements and signalization are within the City of Richmond's jurisdiction and some are within the jurisdiction of Contra Costa County. In addition, in the El Sobrante area, transportation-related projects were identified as part of the City's update of the Revised Schedule of Public Facilities Fees for the El Sobrante Developing Area (1988). The City's developing fee area schedules are predicated on funds collected at the time building permits are issued for developments within a specific area.
2. The City adopted the Shoreline Conservation and Development Strategy in 1988. That document identifies the need to construct an east-west collector street between the I-580 Freeway and the shoreline. This collector will integrate the various development components of the redeveloping area south of I-580 and alleviate the future traffic congestion anticipated with the current circulation system. In order to develop more specific public/private direction for this portion of Richmond, the City developed the Knox Freeway/Cutting Boulevard Corridor Specific Plan, adopted in September 1991. It is intended to act as a mechanism to guide improvements and land use decisions in this corridor in the context of anticipated changes in the circulation system resulting from completion of the Knox Freeway (I-580) and anticipated land use changes in the area. Identified improvements to the circulation system of the area addressed by this Specific Plan are generally identified in Table 2 of Addendum 6 to Section F.
3. The City adopted the City Center Specific Plan in February 1988 to provide definitive guidelines for public and private decisions in the City Center area. Improvements identified by this Specific Plan are identified in Table 3 of Addendum 6 to Section F.
4. Chapter 12.64 of the Richmond Municipal Code provides the Council the ability to establish developing area fee schedules for specific portions of the City. These

schedules are directly related to anticipated levels of development within a defined area of the City, and infrastructure improvements (including transportation facilities) which are anticipated to meet the needs of development. To date, the City has established three developing fee areas: 1) El Sobrante; 2) Brickyard Cove; and 3) Pinole Point/Hilltop. Circulation-related projects for each fee area are contained in Tables 1, 4 and 5, respectively, of Addendum 6 to Section F.

5. The City of Richmond updates its Five Year Capital Improvement Program (CIP) annually. Beside programming circulation-related projects derived from demands from new or anticipated development, Richmond's CIP contains projects which reflect improvements required as a result of: 1) technical traffic engineering warrants and standards; and 2) maintenance of existing infrastructure. For example, in the early 1960's, the City identified the need to modify the existing intersection of 23rd Street, Carlson Boulevard, Espee and Broadway. BART (already at a separate grade) and Southern Pacific Railroad tracks also cross this intersection. In 1987, the City received Grade Separation funding from the state PUC to modify the intersection. This project is included in the City's FY 1991-92 CIP. Work on that project was initiated in 1991 and is anticipated to be completed in 1993.

Overall, Addendum 6 to Section F lists projects identified as a result of paragraphs 1 through 5 above. The City's CIP is incorporated by reference as part of Addendum 6 to Section F of the Technical Appendix.

LEVEL OF SERVICE ANALYSIS

In 1988, the voters of Contra Costa passed Measure 'C' (Transportation). This ballot measure, among other things, established a 0.5% sales tax, with derived revenue dedicated to transportation-related improvements throughout the County.

Measure 'C' also contains provisions for participating jurisdictions to share in these revenues through a "return-to-source" program.

To receive return-to-source funds, individual jurisdictions are required to take several mandatory actions, including:

1. Adoption of a Growth Management Element for their General Plans; and
2. Participation in regional transportation planning efforts.

Measure 'C' requires that in order to receive return-to-source funds, participating jurisdictions prepare a Growth Management Element.

As required by Measure 'C', the Growth Management Element of the Richmond General Plan establishes policies and standards for traffic Levels of Service and performance standards for capital projects related to fire service, police service, parks facilities, water service and flood control facilities.

The Growth Management Element to the Richmond General Plan contains a more detailed discussion of Measure 'C' requirements and standards as well as related goals and policies.

Traffic Service Standards and Programs

Measure 'C' establishes two basic categories of surface routes:

- (1) Routes of Regional Significance; and
- (2) Basic Routes.

(See Glossary in Volume One of the Richmond General Plan for definitions of Routes of Regional Significance and Basic Routes.)

Generally, three factors affect traffic capacity on any street or highway:

- (1) Local land use;
- (2) Through traffic; and
- (3) Traffic engineering and design.

A computerized traffic model was used to analyze existing and anticipated impact on basic routes. The model integrated transportation demands in the cities of El Cerrito, Hercules, Pinole, Richmond and San Pablo, and the surrounding unincorporated areas (the western portion of Contra Costa County).

Routes of regional significance are addressed on a regional basis by Action Plans for Regional Routes. In western Contra Costa County, the Action Plan for Regional Routes is being developed by the West Contra Costa Transportation Advisory Committee (WCCTAC). Figure F-3 shows the regional route system adopted by WCCTAC.

Basic routes are addressed on a local level. Measure 'C' establishes standards for traffic service through volume/capacity (V/C) ratios. The Measure mandates the following traffic Level of Service (LOS) standards by land use categories:

- (1) Rural--LOS low-C (70 to 74) V/C
- (2) Semi-Rural--LOS high-C (75 to 79) V/C

- (3) Suburban--LOS low-D (80 to 84) V/C
- (4) Urban--LOS high-D (85 to 89) V/C
- (5) Central Business District--LOS low-E (90 to 94) V/C

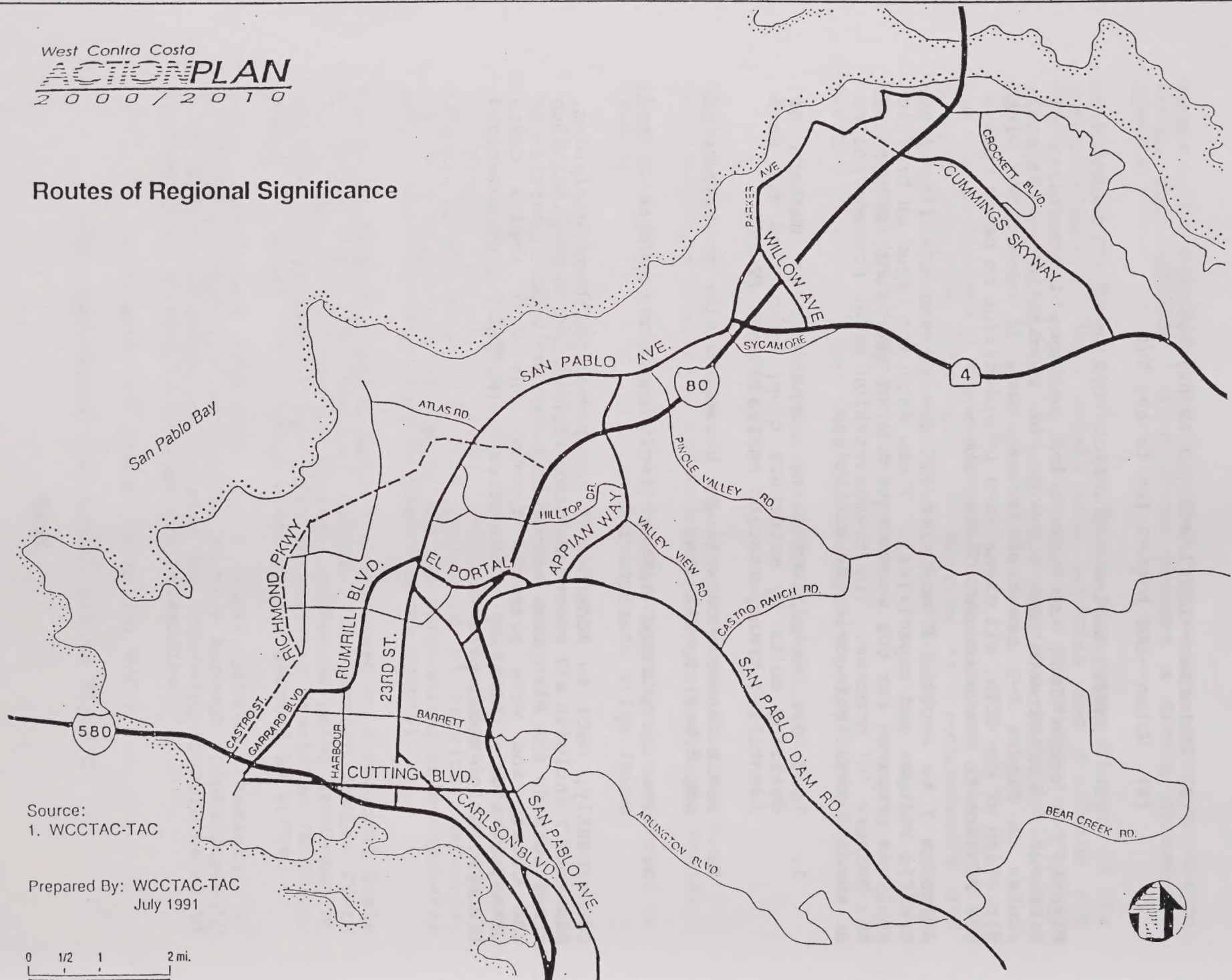
Figure F-4 shows land use categories assigned to portions of Richmond. All streets and highways not identified as regional routes on Figure F-3 are basic routes and, in accordance with direction of the CCTA, all signalized intersections on basic routes are subject to the standards listed above.

Addendum 7 to Section F contains V/C ratios and LOS (for 1990 traffic volumes and capacities). These data are based on traffic analysis prepared for the western portion of the County as part of the Measure 'C' process. The transportation model process relies on three general categories of variables:

1. Land use (e.g., acres of commercial or numbers of dwelling units by structure type) calculated for each identified transportation analysis zone (TAZ);
2. Socio-economic data (e.g., household size or numbers of employees) by TAZ; and
3. The circulation system (including street capacity and modal split characteristics).

Consequently, data in Addendum 7 are based on these variables. Addendum 7 includes all reported intersections and ramps (including those outside the Plan Area boundaries) for the western portion of the County and were prepared through the West Contra Costa Transportation Advisory Committee (WCCTAC) computerized transportation model process.

Routes of Regional Significance



Source:
 1. WCCTAC-TAC

Prepared By: WCCTAC-TAC
 July 1991

0 1/2 1 2 mi.

Richmond General Plan

HERCULES

SAN
PABLO
BAY

F-15

Measure "C" Land Use Categories

Central Business District (CBD) - - - - -

Suburban; balance of the city
(including the El Sobrante area) ————



Figure F - 4



REFERENCES

AC Transit, Short Range Transit Plan FY 1990-1994 Draft.

Amtrak, Amtrak's America, Discover the Magic, 1989.

Owen, Neal D., Santina and Thompson, Knox Freeway/Cutting Boulevard Corridor Specific Plan Richmond California Railroad Operations Feasibility Study, Walnut Creek, California, May 1989.

Baker, Frank, Description of Paratransit Services, Richmond, California, 1989.

City of Richmond, Shoreline Conservation and Development Strategy, December 1987.

City of Richmond, Knox Freeway/Cutting Boulevard Corridor Specific Plan, September 1991.

DeLeuw, Cather & Company, Preliminary Engineering Studies for Railroad Grade Separation on Cutting Boulevard Richmond, California, San Francisco, 1988.

Fajans, Michael H., President AC Transit Board of Directors, Guide for Including Public Transit in Land Use Planning, Oakland, California, 1983.

Koepke, John S., Committee Chairman, El Sobrante Area Traffic Study, Contra Costa County, California, 1984.

Petersen, Kay, Director Board Master Plan Committee, East Bay Regional Park District Master Plan 1989, Oakland, California, 1989.

West Contra Costa Transportation Advisory Committee (WCCTAC), Action Plan - 2000/2010, San Pablo, California, July 1991.

Wilson, Frank J., BART General Manager, Bay Area Rapid Transit 1989 Five Year Plan, Oakland, California, 1989.

ADDENDUM 1

1992 RATIO OF PARK ACRES PER 1000 PERSONS IN RICHMOND'S SERVICE DISTRICTS

<u>Service District*</u>	<u># Acres(1992) City parks</u>	<u>1990 Pop.</u>	<u>1992 Park Acres Per 1,000 Pop.</u>
1. SOUTHEAST/ANNEX	27.86	8,313	3.35
2. PARK/PULLMAN	11.53	7,751	1.49
3. SOUTHSIDE (SOUTH RICHMOND)	19.16	5,291	3.62
4. MARINA BAY	24.0	3,433	6.99
5. POINT RICHMOND/ BRICKYARD COVE	18.15**	2,685	6.76
6. IRON TRIANGLE	18.9	11,231	1.68
7. CENTRAL/EAST RICHMOND	55.85	25,568	2.18
8. NORTH RICHMOND	5.93	1,144@	5.18
9. PARCHESTER	2.14	1,143	1.87
10. HILLTOP/FAIRMEDE- HILLTOP	36.34	8,093	4.49#
11. EL SOBRANTE	24.07	12,773@	1.88

* See Figure E-2 at end of Section E for map of service districts.

** Includes Pt. Molate Beach Park (citywide park). Without Pt. Molate, ratio is 1.17.

@ City of Richmond portion only

Includes 18-acre Hilltop Lake Park, a citywide park. Without Hilltop Lake Park, ratio is 2.27.

Source: Richmond, CA Recreation and Parks Commission, Update of Goals and Standards for City of Richmond Parks and Recreation Facilities (report), October 1991, Appendix A. (See Appendix A tables for detailed listing of facilities, acreage, and park-to-population ratios for each service district.)

ADDENDUM 1

LIST OF MAJOR THOROUGHFARES

Appian Way
Arlington Boulevard, Arlington Avenue
Barrett Avenue W of Dimm Street
Blume Drive
Canal Boulevard
Carlson Boulevard
Castro Ranch Road
Central Avenue W of San Pablo Avenue
Cutting Boulevard, San Pablo Avenue to Garrard Boulevard
(W of South Fourth Street)
El Portal Drive
Fairmount Avenue
Fitzgerald Drive, I-80 Interchange with Richmond Parkway to
Appian Way
Harbour Way Avenue-Pennsylvania Avenue-13th Street-Rumrill
Boulevard
Hilltop Drive W of La Paloma Road (N of Robert H. Miller Drive
to Richmond Parkway)
MacDonald Avenue W of San Pablo Avenue
Marina Way, Barrett Avenue to Ohio Street
Meade Street
Meeker Avenue
Pinole Valley Road-Alhambra Valley Road
Regatta Boulevard, between Marina Way and the N-S line of
Regatta Boulevard
Road 20, San Pablo Avenue to El Portal Drive
Robert H. Miller Drive
San Pablo Dam Road
San Pablo Avenue
Seacliff Drive, Canal Boulevard to Brickyard Cove Road
Twenty-Third Street-Marina Bay Parkway N of Meeker Avenue
Valley View Road

ADDENDUM 2

LIST OF SECONDARY THOROUGHFARES

Amend Road
Ashbury Avenue N of Fairmount Avenue
Atlas Road W of San Pablo Avenue
Avis Drive-Colusa Avenue
Barrett Avenue, Dimm Street to Arlington Boulevard
Bayview Avenue-South Fifty-fifth Street
Broadway Avenue
Cutting Boulevard E of San Pablo Avenue
Garvin Avenue, Seventeenth Street to San Pablo Avenue
Goodrick Avenue
Giant Highway-Brookside Drive
Harbour Way South, S of I-580
Hilltop Mall Road and connecting roads
Lakeside Drive-Research Drive
Marina Bay Parkway S of Meeker Avenue
Marina Way S of Ohio Avenue
Market Avenue E of Third Street-Church Lane
McBryde Avenue, Twenty-third Street to Arlington Boulevard
May Road W of Valley View Road
Moeser Lane-Terrace Drive to Arlington Avenue
Morningside Drive
New Street Atlas Road to Richmond Parkway
Ohio Avenue, Garrard Boulevard to Twenty-third Street
Parr Boulevard, Richmond Parkway to Giant Highway
Potrero Avenue
Rheem Avenue, Rumrill Boulevard to San Pablo Avenue
Roosevelt Avenue, Twenty-third Street to Thirty-seventh Street
San Joaquin Street
Seventh Street-Third Street, Macdonald Avenue to Parr Boulevard
Solano Avenue, San Pablo Avenue to Arlington Boulevard
South Garrard Boulevard-Dornan Drive-Brickyard Cove Road
Regatta Boulevard (formerly South Thirty-fourth Street) S of Meeker Avenue
Thirty-Seventh Street S of Roosevelt Avenue (N of Barrett Avenue)
Western Drive

ADDENDUM 3

SCENIC ROUTES AND SCENIC CORRIDORS

The two freeways, Richmond Parkway north of Castro Street, and the following Major Thoroughfares and Secondary Thoroughfares are designated scenic routes:

Arlington Boulevard, Tamalpais Drive to Terrace Avenue
Barrett Avenue
Blume Drive
Carlson Boulevard
Castro Ranch Road
Cutting Boulevard, W of I-80
Giant Highway
Harbour Way-Pennsylvania Avenue-13th Street-Rumrill Boulevard
Macdonald Avenue, W of I-80 to Third Street
Marina Way
Meade Street
Meeker Avenue
Moeser Lane
Pinole Valley Road-Alhambra Valley Road
Regatta Boulevard
Robert H. Miller Drive-Hilltop Drive to La Paloma Road
San Pablo Avenue S of Richmond Parkway
San Pablo Dam Road
Seacliff Drive, Canal Blvd. to Brickyard Cove Road
South Garrard Boulevard-Dornan Drive-Brickyard Cove Road
Valley View Road, S of Sunset Lane
Western Drive

Scenic Corridors. This designation includes the following undeveloped or largely undeveloped areas of scenic quality adjacent to and visible from designated scenic routes:

The area adjacent to the Garrard-Canal Boulevard loop.
The western portion of San Pablo Peninsula adjacent to Western Drive.
The area adjacent to San Pablo Dam Road west of Valley View.
The area adjacent to Castro Ranch Road.

Appendix 1: List of Sites

The following list of sites is provided for information only. It is not intended to be a comprehensive list of all sites in the area. The list is based on information provided by the local authorities and is subject to change.

- 1. Site 1: Located in the north-east of the area, near the river.
- 2. Site 2: Located in the south-east of the area, near the river.
- 3. Site 3: Located in the north-west of the area, near the river.
- 4. Site 4: Located in the south-west of the area, near the river.
- 5. Site 5: Located in the north-east of the area, near the river.
- 6. Site 6: Located in the south-east of the area, near the river.
- 7. Site 7: Located in the north-west of the area, near the river.
- 8. Site 8: Located in the south-west of the area, near the river.
- 9. Site 9: Located in the north-east of the area, near the river.
- 10. Site 10: Located in the south-east of the area, near the river.
- 11. Site 11: Located in the north-west of the area, near the river.
- 12. Site 12: Located in the south-west of the area, near the river.
- 13. Site 13: Located in the north-east of the area, near the river.
- 14. Site 14: Located in the south-east of the area, near the river.
- 15. Site 15: Located in the north-west of the area, near the river.
- 16. Site 16: Located in the south-west of the area, near the river.
- 17. Site 17: Located in the north-east of the area, near the river.
- 18. Site 18: Located in the south-east of the area, near the river.
- 19. Site 19: Located in the north-west of the area, near the river.
- 20. Site 20: Located in the south-west of the area, near the river.

The list of sites is provided for information only. It is not intended to be a comprehensive list of all sites in the area. The list is based on information provided by the local authorities and is subject to change.

The list of sites is provided for information only. It is not intended to be a comprehensive list of all sites in the area. The list is based on information provided by the local authorities and is subject to change.

ADDENDUM 4

PRESENT AND PROPOSED AC TRANSIT ROUTES

- 68 El Cerrito del Norte Bart to Richmond BART via Arlington, Garvin
- 69 Contra Costa College to El Sobrante via Hilltop or San Pablo Dam Rd
- 70 Contra Costa College to Hilltop Mall via Moyers or via Atlas
- 71 El Cerrito del Norte BART to Contra Costa College via Carlson, 13th St.
- 72 Jack London Waterfront to Hilltop Mall via San Pablo Avenue.
- 73 El Cerrito del Norte BART to Point Richmond via MacDonald
- 74 Contra Costa College to Kaiser Clinic via 23rd St.
- 76 El Cerrito Plaza BART to Contra Costa College via Marina Bay
- 77 El Cerrito del Norte BART to Brickyard Landing via Cutting
- 78 Richmond BART to West County Justice Center
- 143X San Francisco to El Sobrante/Appian Way
- 169X San Francisco to El Sobrante/Sherwood Forest
- 170X San Francisco to Hilltop
- 174X San Francisco to San Pablo
- 179X San Francisco to El Sobrante/May Road
- 200 Contra Costa College to Crockett

Appendix 1

Table 1: Summary of the data

100	Control Group (n=100)
101	Group 1 (n=100)
102	Group 2 (n=100)
103	Group 3 (n=100)
104	Group 4 (n=100)
105	Group 5 (n=100)
106	Group 6 (n=100)
107	Group 7 (n=100)
108	Group 8 (n=100)
109	Group 9 (n=100)
110	Group 10 (n=100)
111	Group 11 (n=100)
112	Group 12 (n=100)
113	Group 13 (n=100)
114	Group 14 (n=100)
115	Group 15 (n=100)
116	Group 16 (n=100)
117	Group 17 (n=100)
118	Group 18 (n=100)
119	Group 19 (n=100)
120	Group 20 (n=100)

ADDENDUM 5

PORT PROFILE, PORT OF RICHMOND

TERMINAL	CARGO TYPE	CHARACTERISTICS
No. 1	Bulk liquids	557'x32' concrete wharf with transit shed and warehouse supported by concrete piles. Rail connections are direct to the Terminal.
No. 2	Liquid cargo	710 usable berthing space with dolphins. Railroad connections are direct to terminal.
No. 3	Container Terminal	1009'x 110' concrete wharf. The container handling equipment includes two rail mounted dock cranes and two yard gantry cranes. All cranes are powered by electricity and rated at 37 short tons.
No. 4	Bulk liquids, petroleum and petrochemicals	1047' long timber wharf supported by timber and concrete piles with widths of 175' at south side and 100' at north side.
Point Potrero M a r i n e Terminal	Break Bulk	Two 550'x 48' concrete piers on concrete piles.
No. 6	Shipyard Facility	The facility has five graving docks. One is 748', one is 587' and three are 575'. All are 84' wide at the gate, 100' inside. Four berths are available for alongside repairs, layberthing and handling of break bulk cargoes and autos. Berth A is 450'. Berth B is 380', Berth C is 500' and Berth D is 415'.

No. 7	Ro-Ro, Lo-Lo (Automobiles)	700' concrete wharf supported by concrete and timber piles.
Point Molate	Bulk liquid	U.S. Navy petroleum pier.
Time Oil Wharf	POL	Timber piles, timber deck with concrete.
Pozzolan Int'l	Sand and Aggregate	Timber piles and deck.
Texaco Wharf	POL	Timber piles and deck.
Cal-Coast Marina Wharf	Commercial fishing vessels and marina repairs.	Concrete bulkhead.
Sanford-Wood Marina Wharf	Boat repair	Timber piles and deck.
Richmond Boat Works Wharf	Boat repair	Timber piles and deck.
Burmah-Castrol Wharf	Petroleum and petrochemicals	Timber piles and deck.
Santa Fe Sugar Dock	not used	Timber piles and deck.
Gold Bond/ National Gypsum Dock	Gypsum rock	Steel piles with steel and timber deck.
Union Oil Docks	POL	Concrete piles and deck.
ARCO Docks	P O L a n d petrochemicals	Concrete piles and deck.
Richmond Long Wharf and Mooring Dock	POL and vessel mooring	Concrete piles and deck.
Point Orient Wharf	P O L , v e s s e l bunkering	Timber piles and deck.

ADDENDUM 6

PLANNED ROADWAY IMPROVEMENTS

TABLE 1
EL SOBRANTE TRAFFIC ADVISORY COMMITTEE
PLANNED OR RECOMMENDED STREET AND ROAD IMPROVEMENTS
(This is not a priority listing)

1. Install signal lights at the following locations when and if warranted:
Appian Way at Allview Avenue.^{(2)*}
Appian Way at LaPaloma Road.^{(2)*}
Appian Way at Manor Road.^{(2)*}
Appian Way at Pebble Drive.^{(2)*}
Appian Way at Valley View Road.^{(2)*}
Barranca at El Portal.^{(3)*}
Hilltop Drive at Park Central.⁽²⁾
San Pablo Dam Road at Castro Ranch Road.^{(1)*} (Completed)
San Pablo Dam Road at Clark Road.^{(2)*}
San Pablo Dam Road at Greenridge Drive.^{(2)*}
San Pablo Dam Road at Milton Drive.^{(2)*}
Valley View Road at May Road.^{(2)*}
Valley View Road at Morningside.⁽²⁾ (Completed)
Pedestrian traffic signal on San Pablo Dam Road at Pitt Way.⁽²⁾
- (Completed)
2. Widen San Pablo Dam Road to five lanes and add sidewalks between Marrow and Barranca.⁽¹⁾
3. Widen El Portal to four lanes plus turning lanes between Interstate 80 & San Pablo Dam Road.^{(1)*}
4. Widen May Road to four lanes between Bruno and Winsor Way.⁽³⁾
5. Widen Castro Ranch Road.⁽²⁾
6. Widen Hilltop Drive to three lanes between Interstate 80 and Manor Road.⁽²⁾
7. Widen Valley View Road between Morningside Drive and San Pablo Creek.⁽¹⁾
8. Widen Valley View Road between Sobrante Avenue and Richmond City Limits.⁽¹⁾
9. Widen Appian Way from Michael Drive to Valley View Road. As an interim measure install three/four lanes and a bike lane.⁽¹⁾
10. Widen Appian Way from Valley Road to San Pablo to Dam Road. As an interim measure install three lanes and a bike lane.⁽¹⁾
11. Widen San Pablo Dam Road to three lanes between Castro Ranch Road and Tri Lane.⁽³⁾
12. Widen San Pablo Dam Road to five lanes with bike lanes from Appian Way to Castro Ranch Road and rehabilitate San Pablo Dam Road between May Road and Castro Ranch Road.⁽²⁾
13. Spot widen Manor Road and add sidewalks west of Hilltop Drive.⁽²⁾

14. Build carpool parking lot at El Portal (school site or alternate).⁽¹⁾
15. Build Park and Ride Lot at Atlas Road and Interstate 80.⁽¹⁾
16. Build carpool parking lot at Castro Ranch Road - City Jurisdiction.^{(2)*} (Completed 1991)
17. Develop Bike and Pathway Plan.⁽²⁾
18. Construct bike path on Hilltop Drive between Park Central and Manor Road.⁽²⁾
19. Widen, construct bike path, add frontage improvements, sidewalks and drainage path Manor Road East of Hilltop Drive.⁽²⁾
20. Build pedestrian bridge across San Pablo Creek at Hillcrest.⁽²⁾
21. Build San Pablo Dam Road Couplet with parking bays and bike lanes between El Portal and Appian Way. As an interim measure install dual left turn lanes on San Pablo Dam Road at Appian Way.⁽¹⁾
22. Modify Sobrante Avenue/Valley View/Appian Way triangle to a one way couplet.⁽¹⁾
23. Build Salida Way connection to Fitzgerald Drive.⁽²⁾
24. Build new road connection between Allview Avenue and Fitzgerald Drive.⁽¹⁾
25. Complete Atlas Road Extension between San Pablo Ave. and Interstate 80.⁽¹⁾
26. Make channelization improvements at Hilltop Drive and Park Central intersection.⁽²⁾
27. Eliminate left turn conflict at Interstate 80 and San Pablo Dam Road.⁽²⁾
28. Install dual left turn lanes on San Pablo Dam Road at May Road.⁽³⁾
29. Install large street name signs at major streets along San Pablo Dam Road.⁽¹⁾
30. Complete Castro Ranch Road slide repair.⁽¹⁾
31. Install street lights on May Road between Sheldon School and San Pablo Dam Road.⁽³⁾
32. The ultimate improvements on Appian Way from Michael Drive to Valley View Road should be four lanes plus left turn pockets and sidewalks.⁽²⁾
33. The ultimate improvements on Appian Way from Valley View Road to San Pablo Dam Road should be four lanes plus left turn pockets and sidewalks.⁽²⁾

⁽¹⁾First Priority El Sobrante Area Improvements

⁽²⁾Second Priority El Sobrante Area Improvements

⁽³⁾Third Priority El Sobrante Area Improvements

*Identified as part of the City's update of the Revised Schedule of Public Facilities Fees for the El Sobrante Developing Area (1988).

TABLE 2
KNOX FREEWAY/CUTTING BOULEVARD
CORRIDOR SPECIFIC PLAN:
PLANNED ROADWAY IMPROVEMENTS

1. Make improvements directed by the Knox Freeway/Cutting Boulevard Corridor Specific Plan and generally depicted in the Circulation Plan Diagram (Figure 4.13).
 2. Make improvements to Cutting Boulevard as discussed in the Knox Freeway/Cutting Boulevard Corridor Specific Plan.
-

TABLE 3
CITY CENTER SPECIFIC PLAN:
PLANNED ROADWAY IMPROVEMENTS

1. Widen Macdonald Avenue between 9th Street and 16th Street.
 2. Widen Harbour Way at Macdonald Avenue.
 3. Improve signals at Macdonald Avenue and Harbour Way.
 4. Improve signals at Macdonald Avenue and Marina Way.
 5. Improve signals at Macdonald Avenue and 12th Street.
 6. Improve Harbour Way between Macdonald Avenue and Cutting Boulevard.
 7. Improve Marina Way between Nevin Avenue and Cutting Boulevard.
 8. Construct surface parking lots and parking structures as dictated by future development.
-

TABLE 4
BRICKYARD COVE DEVELOPING
FEE AREA PROJECTS

1. Widen Brickyard Cove Road between Dornan Drive and Seacliff Drive.
 2. Construct Seacliff Drive between Brickyard Cove Road and Canal Boulevard.
 3. Widen Canal Boulevard between Cutting Boulevard and Seacliff Drive.
-

TABLE 5
PINOLE POINT/HILLTOP
DEVELOPING FEE AREA PROJECTS

1. Extend Parr Boulevard between Richmond Parkway and Giant Highway.
 2. Extend Giant Highway between Richmond Parkway and Parr Boulevard.
 3. Extend Atlas Road between Giant Highway and Richmond Parkway.
 4. Extend Atlas Road between Atlas Road and San Pablo Avenue.
 5. Extend Hilltop Drive between San Pablo Avenue and Richmond Parkway.
 6. Improve Hilltop Drive between Blume Drive and I-80.
 7. Improve San Pablo Avenue between Robert H. Miller Drive and Atlas Road.
 8. Extend Goodrick Avenue between Parr Boulevard and Richmond Parkway.
 9. Construct Richmond Parkway (Section 6) between I-80 and San Pablo Avenue.
 10. Construct Richmond Parkway Flyover at San Pablo Avenue.
 11. Construct Richmond Parkway (Section 5) between San Pablo Avenue and Giant Highway.
 12. Construct Richmond Parkway (Section 4) between Giant Highway and Parr Boulevard.
 13. Construct interchange at I-80 and Richmond Parkway.
 14. Improve intersection at San Pablo Avenue and Hilltop Drive.
 15. Improve intersection at Hilltop Drive and Blume Drive.
 16. Install 12 new traffic signals; modify 5 controllers; and modify master control system.
 17. Construct pedestrian overcrossing between Hilltop Drive and Shane.
 18. Construct pedestrian undercrossing between Hilltop Drive and San Pablo Avenue.
 19. Construct pedestrian path Hilltop Drive-Hillview-Research Drive.
 20. Construct pedestrian path Hilltop Drive-Blume Drive-Robert H. Miller Drive.
-

ADDENDUM 7

OVERVIEW OF LOS ANALYSIS

Materials prepared for Measure 'C' traffic level of service (LOS) analysis are consistent with some requirements for the General Plan's Circulation Element. Addendum 7 contains an overview of the LOS analysis. Table 1 of Addendum 7 contains LOS analysis for specific intersections within Richmond and other West Contra Costa County jurisdictions.

Table 1 of this Addendum indicates volume/capacity (V/C) ratios and LOS (for 1990 traffic volumes and capacities). These data are based on traffic analysis prepared for the western portion of the County as part of the Measure 'C' process. The transportation model process relies on three general categories of variables:

1. Land use (e.g., acres of commercial or numbers of dwelling units by structure type) calculated for each identified transportation analysis zone (TAZ);
2. Socio-economic data (e.g., household size or numbers of employees) by TAZ; and
3. The circulation system (including street capacity and modal split characteristics).

Consequently, data in Table 1 is based on these variables. The Table includes all reported intersections and ramps (including those outside the Plan Area boundaries) for the western portion of the County. The data were prepared through the West Contra Costa Transportation Advisory Committee (WCCTAC) computerized transportation model process.

TABLE 1 - Page 1 of 3
WEST CONTRA COSTA COUNTY EXISTING V/C RATIOS AND LEVELS OF SERVICE

North To South St.	East To West St.	A M		P M	
		V/C	LOS	V/C	LOS
San Pablo	Carlson	/a/	/a/	0.48	A
Sycamore	Bayberry	0.54	A	0.46	A
San Pablo	Sycamore	0.80	C	0.82	D
San Pablo	Pinion/1st	0.56	A	0.88	D
San Pablo	Tenant/PinVal	0.57	A	0.62	B
WB I-80 On/Off	Pinole Valley	0.69	B	0.58	A
Appian	Tar Hill/Canyon	0.55	A	0.56	A
I-80 W of E On	Appian	0.54	A	0.58	A
Appian	San Pablo Dam	0.71	C	0.64	B
I-80 On/Off	Hilltop	0.48	A	0.43	A
WB I-80 On/Off	Hilltop	0.35	A	0.36	A
Mall/Robt. Miller	Hilltop	0.24	A	0.39	/a/
Rumrill	Brookside	0.48	A	0.53	A
San Pablo	Robt. Miller	0.32	A	0.55	A
WB I-80 Off	El Portal	0.90	D	0.75	C
San Pablo	23rd/Road 20	0.73	C	0.86	D
San Pablo	El Portal	0.66	B	0.70	B
San Pablo	Church	0.55	A	0.59	A
San Pablo	San Pablo Dam	0.76	C	0.56	A
WB I-80 On/Off	San Pablo Dam	0.94	E	0.83	D
EB I-80 On/Off	San Pablo Dam	0.88	D	1.06	F
El Portal	San Pablo Dam	0.79	C	0.75	C
EB I-80 On/Off	El Portal	0.58	A	0.66	B
San Pablo	Barrett	0.50	A	0.73	C

/a/ Count is not available at the time of this analysis.

/b/ Intersection is not signalized.

TABLE 1 - Page 2 of 3
WEST CONTRA COSTA COUNTY EXISTING V/C RATIOS AND LEVELS OF SERVICE

North To South St.	East To West St.	A M		P M	
		V/C	LOS	V/C	LOS
EB I-80 On/Off	San Pablo	0.36	A	0.71	C
WB I-80 On	Barrett	0.60	A	0.50	A
23rd	Rheem	0.53	A	/a/	/a/
23rd	Barrett	0.29	A	0.53	A
23rd	Macdonald	0.26	A	0.43	A
Harbour	Macdonald	0.22	A	0.32	A
Harbour	Cutting	0.55	A	0.70	B
Carlson	Cutting	0.41	A	0.55	A
23rd	Cutting	0.46	A	0.49	A
Marina Bay	WB I-580 On/Off	/a/	/a/	0.18	A
WB I-80 Off	Cutting	0.45	A	0.38	A
Marina Bay	EB I-580 On/Off	0.13	A	/a/	/a/
EB I-80 On/Off	Central	0.31	A	/a/	/a/
WB I-80 On/Off	Central	0.51	A	/a/	/a/
Appian	Fitzger/Sarah	0.49	A	0.66	B
Elm	Cutting	/b/	/b/	/b/	/b/
Eastshore/I-80 Off	Potrero	0.45	A	0.41	A
San Pablo	Potrero	0.64	B	0.65	B
San Pablo	Cutting	0.58	A	0.69	B
San Pablo	Schmidt	0.39	A	0.29	A
Sycamore	Refugio Valley	0.29	A	0.29	A
Sycamore	Turquoise	0.38	A	0.32	A
Richmond	Mbeser	0.45	A	0.47	A
Carlson	Central	0.30	A	0.39	A

/a/ Count is not available at the time of this analysis.

/b/ Intersection is not signalized.



U.C. BERKELEY LIBRARIES



C101696544

